Federal Operating Permit
Article 1

This permit is based upon the requirements of Title V of the Federal Clean Air Act and Chapter 80, Article 1 of the Commonwealth of Virginia Regulations for the Control and Abatement of Air Pollution. Until such time as this permit is reopened and revised, modified, revoked, terminated or expires, the permittee is authorized to operate in accordance with the terms and conditions contained herein. This permit is issued under the authority of Title 10.1, Chapter 13, §10.1-1322 of the Air Pollution Control Law of Virginia. This permit is issued consistent with the Administrative Process Act, and 9 VAC 5-80-50 through 9 VAC 5-80-300 of the State Air Pollution Control Board Regulations for the Control and Abatement of Air Pollution of the Commonwealth of Virginia.

Authorization to operate a Stationary Source of Air Pollution as described in this permit is hereby granted to:

Permittee Name:	Kyanite Mining Company
Facility Name:	Kyanite Mining Company
Facility Location:	off U.S. Hwy. 15 south of U.S. Hwy. 60 in Buckingham County Virginia
DEQ Registration Number:	30677
Permit Number	SCRO30677

This permit includes the following programs:

Federally Enforceable Requirements - Clean Air Act (Sections I through IX)

Effective Date: May 23, 2003

Modification Date: December 18, 2006, previously amended July 29, 2005 and September 21, 2004

Expiration Date: May 22, 2008

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T. L. Henderson, Regional Director, South Central Regional Office

Signature Date: December 18, 2006

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I. Facility Information

Permittee
Kyanite Mining Company
P. O. Box 486
Dillwyn, Virginia 23936

Responsible Official
Guy B. Dixon
Vice President and General Manager

Facility
Kyanite Mining Company
Located off U.S. Hwy. 15 four mile south of U.S. Hwy. 60 in Buckingham County

Contact Person
John Snoddy
Environmental Manager
(434) 983-4316

County-Plant Identification Number: 51-029-00016

Facility Description: NAICS Code 212325 – Facility mines raw kyanite ore on-site, crushes the raw kyanite ore, concentrates the kyanite mineral using wet extraction processes, and eliminates the remaining impurities through thermal oxidization. Some of the refined kyanite is calcined into mullite, a similar material with different physical properties. Both kyanite and mullite are used for high temperature refractory materials and high voltage electrical insulators.

II. Emission Units

Equipment to be operated consists of:

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
Fuel Burning Equipment							
E5.1, E5.2	E5S	Starnell Model 1015 fluid bed dryer and an Allis Chalmers 10' x 100' rotary cooler, 1974	30 tons/hr and a 34 x 10^6 Btu/hr (heat input) burner	Croll-Reynolds Model CR-4-170-10R wet electrostatic precipitator (WESP) constructed in 2001	EWESP	PM, PM-10, SO_2, NOx, HF	May 22, 2006
W4.1, W4.2	W4S	4' x 60' rotary dryer and 5' x 60 rotary cooler , 1957	10 tons/hr and a 13.8 x 10^6 Btu/hr (heat input) burner	Croll-Reynolds Model CR-4-92-10R wet electrostatic precipitator (WESP) constructed in 2001	WWESP	PM, PM-10, SO_2, NOx, HF	May 22, 2006
G5	G5S	1 - L. F. Smith rotary kiln, construction in 1985, not completed	30 tons/hr and a 47.6 x 10^6 Btu/hr (heat input) burner	Wet electrostatic precipitator (WESP) or equivalent, not constructed	GWESP	PM, PM-10, SO_2, NOx, HF	May 22, 2006
W6	W6S	5' x 20' sand dryer, 1957	6 tons/hr and a 4.0 x 10^6 Btu/hr (heat input) burner	Kyanite Mining Co. Wet cyclone, 1957	WCYC	PM, PM-10	May 22, 2006
Ref. Dredge		IC-powered dredge, 1971	525 HP	none			May 22, 2006
East Ridge Plant - Raw kyanite processing							
E1	fugitive	primary crusher truck dump, 1978	350 tons/hr	Wet suppression	none	PM, PM-10	May 22, 2006
E2	fugitive	50" x 60" Telsmith primary jaw crusher, 1978	350 tons/hr	Wet suppression	none	PM, PM-10	May 22, 2006
E4.1, E4.2	fugitive	Telsmith Model 48FC tertiary cone crusher, 1978	70 tons/hr, each	Wet suppression	none	PM, PM-10	May 22, 2006
E3	fugitive	Telsmith Model 1500 SX secondary cone crusher, 1978	175 tons/hr	Wet suppression	none	PM, PM-10	May 22, 2006
E2d	fugitive	1 - 5' x 15' Telsmith screen, 1978	350 tons/hr	Wet suppression	none	PM, PM-10	May 22, 2006

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
E3e	fugitive	1 - 5' 13' Telsmith screen, 1978	150 tons/hr	Wet suppression	none	PM, PM-10	May 22, 2006
E2a	fugitive	48" belt conveyor, 1978	350 tons/hr	Wet suppression	none	PM, PM-10	May 22, 2006
E2b, E2c	fugitive	42" belt conveyors, 1978	<350 tons/hr, each	Wet suppression	none	PM, PM-10	May 22, 2006
E3a, E3b	fugitive	30" belt conveyors, 1978	<175 tons/hr, each	Wet suppression	none	PM, PM-10	May 22, 2006
E3c, E3d, E4a, E4b, E4c, E4d	fugitive	24" belt conveyors, 1978	<150 tons/hr, each	Wet suppression	none	PM, PM-10	May 22, 2006
East Ridge Plant - Wet kyanite processing equipment							
E4k	fugitive	wet kyanite truck dump, 1978	150 tons/hr	Wet process	none	PM, PM-10	May 22, 2006
E4f.1 & E4f.2	fugitive	Dominion Engineering Rod/Ball mills, 1978	<75 tons/hr, each	Total enclosure, 1974	Flotation building	PM, PM-10	May 22, 2006
E4e	fugitive	30" belt conveyor, 1978	<175 tons/hr, each	Total enclosure	Flotation building	PM, PM-10	May 22, 2006
E4h, E4i, E4j, E7a	fugitive	24" belt conveyors, 1978	<150 tons/hr, each	Wet process	none	none	May 22, 2006
East Ridge Plant - Finished kyanite processing equipment							
E5a	fugitive	24" belt, 1978	150 tons/hr, each	none	none		May 22, 2006
E5b, E5e, E5g	E5cS	3 - 16" bucket elevators, 1978	<30 tons/hr, each	Torit DFO-4-64-455 fabric filter, 2002	E5cBH	PM, PM-10	May 22, 2006
E5c	E5cS	1 - magnetic separator, 1978	30 tons/hr	Torit DFO-4-64-455 fabric filter, 2002	E5cBH	PM, PM-10	May 22, 2006
E6	fugitive	1 - truck load-out, 1978	30 tons/hr	none	none		May 22, 2006
E5d, E5f	E5cS	24" belt conveyors, 1978	<150 tons/hr, each	Torit DFO-4-64-455 fabric filter, 2002	E5cBH	PM, PM-10	May 22, 2006
East Ridge Plant -Miscellaneous equipment							
E5h.1, E5h.2	fugitive	18" sawdust belt conveyors, 1978	<5 tons/hr, each	Wet suppression	none	PM, PM-10	May 22, 2006
Gieseke Plant - NSPS Subpart OOO finished kyanite processing equipment:							
G2	fugitive	10.5' x 17' Allis Chalmers ball mill 1986	24 tons/hr	Total enclosure, 1986	Upper Gieseke building	PM, PM-10	May 22, 2006
G2a.2	G2S	Sturdevant air classifier, 1986	24 tons/hr	American Air Filter fabric filter	G2BH	PM, PM-10	May 22, 2006
G7	fugitive	9.5' x 17' Model BM-148 Nordberg ball mill with a 10' Whirlwind air classifier, 1986	24 tons/hr	Total enclosure, 1986	Lower Gieseke building	PM, PM-10	May 22, 2006

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
G1b	fugitive	56,000-ton Dry Slot kyanite storage bin, 1986	250 tons/hr	enclosure, 1986		PM, PM-10	May 22, 2006
G1a, G1c	fugitive	36" belt conveyors, 1986	<250 tons/hr, each	No transfer emission	none	none	May 22, 2006
G4a, G6g	fugitive	2 - 24" belt conveyors, 1986	<24 tons/hr, each	No transfer emission	none	none	May 22, 2006
G2a	fugitive	16" bucket elevator, 1986	24 tons/hr	Total enclosure, 1986	Upper Gieseke building	PM, PM-10	May 22, 2006
G7a	fugitive	16" bucket elevator, 1986	24 tons/hr	Total enclosure	Lower Gieseke building	PM, PM-10	May 22, 2006
G6h	fugitive	16" bucket elevator, 1986	24 tons/hr	enclosure, 1986	none	PM, PM-10	May 22, 2006
G3a.1 thru G3a.3	G3S	single spout bagging machines, 1986	<10 tons/hr, each	Torit fabric filter, 1990	G3BH	PM, PM-10	May 22, 2006
G8b.1 & G8b.2	G8S	single spout bagging machines, 1986	<10 tons/hr, each	Torit fabric filter, 1990	G8B1, G8B2	PM, PM-10	May 22, 2006
G1d, G2b	fugitive	1,000-ton storage bins, 1986	<24 tons/hr, each	Total enclosure, 1986	Upper Gieseke building	PM, PM-10	May 22, 2006
G8a	fugitive	1,000-ton storage bins, 1986	<24 tons/hr	Total enclosure, 1986	Lower Gieseke building	PM, PM-10	May 22, 2006
G3b	fugitive	bulk truck load-out, 1986	25 tons/hr	Total enclosure, 1986	Upper Gieseke building	PM, PM-10	May 22, 2006
G8c	fugitive	bulk truck load-out, 1986	25 tons/hr	Total enclosure, 1986	Lower Gieseke building	PM, PM-10	May 22, 2006
GB1	fugitive	1 – 1000 ft^3 Ball Mill Bin, 2006	48 tons/hr		Upper Gieseke building	PM, PM-10	May 22, 2006
GB2	fugitive	1 – Kyanite Truck Dump, 2006	40 tons/hr		none	PM, PM-10	May 22, 2006
GB3	fugitive	1 – Kyanite Bucket Elevator, 2006	40 tons/hr		enclosure	PM, PM-10	May 22, 2006
GB4	GBDC1	3 – 7500 ft^3 Kyanite Bins, 2006	48 tons/hr		Bagging building	PM, PM-10	May 22, 2006
GB5	GBDC2	3 – 7500 ft^3 Kyanite Bins, 2006	48 tons/hr		Bagging building	PM, PM-10	May 22, 2006
GB6	GBDC3	2 – 7500 ft^3 Kyanite Bins, 2006	40 tons/hr		Bagging building	PM, PM-10	May 22, 2006
GB7	GBDC4	1 – Bulk Truck Bin, 2006	40 tons/hr		Bagging building	PM, PM-10	May 22, 2006

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
GB8	GBDC4	1 – Bulk Truck Load-out, 2006	40 tons/hr		Bagging building	PM, PM-10	May 22, 2006
GB9	fugitive	1 – 1000 ft^3 Bulk Bagging Bin, 2006	22 tons/hr		Bagging building	PM, PM-10	May 22, 2006
GB10	fugitive	1 – Bulk Bagging Machine, 2006	22 tons/hr		Bagging building	PM, PM-10	May 22, 2006
GB11	fugitive	1 – Air packing bin, 2006	1000 ft^3		Bagging building	PM, PM-10	May 22, 2006
GB12	fugitive	1 – Air Packing Bagging Machine, 2006	15 tons/hr		Bagging building	PM, PM-10	May 22, 2006
GB13	fugitive	1 – Impeller Packing Bin, 2006	1000 ft^3		Bagging building	PM, PM-10	May 22, 2006
GB14	fugitive	1 – Impeller Packing Bagging Machine, 2006	15 tons/hr		Bagging building	PM, PM-10	May 22, 2006
GS1	GSDC1	1 – 39’ 6” x 20” Mullite Conveyor Belt, 2006	50 tons/hr		Screening building	PM, PM-10	May 22, 2006
GS2	GSDC1	1 – 9’ x 34’ Mullite Storage bin, 2006	24 tons/hr		Screening building	PM, PM-10	May 22, 2006
GS3	GSDC1	1 – 63’ 5” Mullite Bucket Elevator, 2006	25 tons/hr		Screening building	PM, PM-10	May 22, 2006
GS4	GSDC1	1 – 4’ x 8’ Two Deck Scalping Screen, 2006	25 tons/hr		Screening building	PM, PM-10	May 22, 2006
GS5	GSDC1	1 – Roll Crusher, 2006	1 ton/hr		Screening building	PM, PM-10	May 22, 2006
GS6	GSDC1	1 – 12’ x 34’ Mullite Storage Bin, 2006	10 tons/hr		Screening building	PM, PM-10	May 22, 2006
GS7	GSDC1	1 – 84’ 5” Mullite Bucket Elevator, 2006	10 tons/hr		Screening building	PM, PM-10	May 22, 2006
GS8	GSDC1	1 – Sweco 60” diameter x 60” high Three Deck Screen, 2006	5 tons/hr		Screening building	PM, PM-10	May 22, 2006
GS9	GSDC1	1 – Sweco 60” diameter x 60” high Three Deck Screen, 2006	5 tons/hr		Screening building	PM, PM-10	May 22, 2006
GS10	GSDC1	10 – 9’ x 8’ Product Collection Tanks, 2006	10 tons/hr each		Screening building	PM, PM-10	May 22, 2006

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
GSDCS	GSDC1	1 – Scalping Screen, 2006	500 lbs/hr		Screening building	PM, PM-10	May 22, 2006
GS11	GSDC1	10 – 14" x 3' 2.5 HP Variable Speed Conveyors, 2006	10 tons/hr each		Screening building	PM, PM-10	May 22, 2006
GS12	GSDC1	1 – 47' 9" x 20" Reversible Belt Conveyor, 2006	40 tons/hr		Screening building	PM, PM-10	May 22, 2006
GS13	GSDC1	1 – Indoor Truck Load-out, 2006	40 tons/hr		Screening building	PM, PM-10	May 22, 2006
GS14	GSDC1	1 – 32' 6" Bucket Elevator, 2006	40 tons/hr		Screening building	PM, PM-10	May 22, 2006
GS15	GSDC1	1 – 16' x 3' Bagging Tank, 2006	5 tons/hr		Screening building	PM, PM-10	May 22, 2006
GS16	GSDC1	1 – 16' x 3' Bagging Tank, 2006	5 tons/hr		Screening building	PM, PM-10	May 22, 2006
GS17	GSDC1	1 – 16' x 3' Bagging Tank, 2006	5 tons/hr		Screening building	PM, PM-10	May 22, 2006
GS18	GSDC1	1 – Bagging Machine, 2006	5 tons/hr		Screening building	PM, PM-10	May 22, 2006
GS19	GSDC1	1 – Bagging Machine, 2006	5 tons/hr		Screening building	PM, PM-10	May 22, 2006
GS20	GSDC1	1 – Bagging Machine, 2006	5 tons/hr		Screening building	PM, PM-10	May 22, 2006
Gieseke Plant - Non-NSPS Subpart OOO finished kyanite/mullite processing equipment							
G6b	fugitive	5' x 10' Allis Chalmers screen, 1986	20 tons/hr	Enclosure, 1986	none	PM, PM-10	May 22, 2006
G6a.1, G6a.2	fugitive	6' x 20' pan cooler, not constructed	<20 tons/hr, each	Enclosure, 1986	none	PM, PM-10	May 22, 2006
G6e, G6c.1, G6c.2	fugitive	24" belt conveyors, 1986	<150 tons/hr, each	Enclosure, 1986	none	PM, PM-10	May 22, 2006
G6	fugitive	7" bucket elevator, 1986	20 tons/hr	Enclosure, 1986	none	PM, PM-10	May 22, 2006
G6f	fugitive	73,000-ton storage building, 1986	20 tons/hr	Enclosure, 1986	none	PM, PM-10	May 22, 2006
G6c	fugitive	mullite truck dump bin, 1986	20 tons/hr	none	none	none	May 22, 2006
G7b	fugitive	screw conveyor, 1986	24 tons/hr	Enclosure, 1986	none	PM, PM-10	May 22, 2006
G1, G6d, G6c	fugitive	kyanite truck dump bins, 1986	<250 tons/hr, each	none	none	none	May 22, 2006

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
Gieseke Plant - Non-NSPS Subpart Y coal handling equipment							
G9	fugitive	500-tons coal storage bin, 1986	10 tons	Enclosure, 1986	none	PM, PM-10	May 22, 2006
G9a	fugitive	18" belt conveyor, 1986	10 tons/hr	Enclosure, 1986	none	PM, PM-10	May 22, 2006
G10	fugitive	Babcock and Wilcox pulverized coal mill, 1955	10 tons/hr	Enclosure, 1986	none	PM, PM-10	May 22, 2006
Gieseke Plant - NSPS Kb recordkeeping only equipment							
G4	fugitive	distillate/residual oil AST, 1986	60,000-gallon	None			May 22, 2006
G1	fugitive	distillate oil AST, 1986	19,670-gallon	None			May 22, 2006
G2	fugitive	gasoline AST, 1986	19,670-gallon	None			May 22, 2006
Willis Mountain Plant - Raw kyanite processing equipment							
W1	fugitive	truck dumping bin, 1957	200 tons/hr	wet suppression	none	PM, PM-10	May 22, 2006
W2	fugitive	3042 Birdsboro-Buchanan primary jaw crusher, 1957	200 tons/hr	wet suppression	none	PM, PM-10	May 22, 2006
W3	fugitive	Telsmith Model 489S gyratory crusher, 1957	200 tons/hr	wet suppression	none	PM, PM-10	May 22, 2006
W2a, W3a	fugitive	36" belt conveyors, 1957	200 tons/hr, each	wet suppression	none	PM, PM-10	May 22, 2006
W3b	fugitive	61' x 20' raw kyanite storage bin, 1957	200 tons/hr	wet suppression	none	PM, PM-10	May 22, 2006
Willis Mountain Plant - Wet kyanite processing equipment							
W3d.1, W3d.2	fugitive	5' x 10' Allis Chalmers ball mills, 1957	75 tons/hr, each	Total enclosure, 1957	Flotation Building	PM, PM-10	May 22, 2006
W3d.3	fugitive	24" belt conveyor	200 tons/hr	Total enclosure, 1957	Flotation Building	PM, PM-10	May 22, 2006
W3c.1, W3c.2,	fugitive	24" belt conveyors, 1957	200 ton/hr, each	Total enclosure, 1957	Flotation Building	PM, PM-10	May 22, 2006
W3j.1	fugitive	18" belt conveyor, 1957	100 tons/hr	Wet process	none		May 22, 2006
W3f.1 thru W3f.5	fugitive	1,000-ton wet kyanite storage bins, 1957	150 tons/hr, total	Wet process	none		May 22, 2006
W3h	fugitive	14" bucket elevator, 1957	10 tons/hr	Wet process	none		May 22, 2006
W3g, W3i	fugitive	24" belt conveyors, 1957	150 tons/hr, each	enclosure	none	PM, PM-10	May 22, 2006
W3j	fugitive	24" belt conveyor, 1957	200 ton/hr	Wet process	none		May 22, 2006
Willis Mountain Plant - Finished kyanite processing equipment							
W4a.1, W4e.1	fugitive	24" belt conveyors, 1957	10 tons/hr, each	Total enclosure	Magnet Building	PM, PM-10	May 22, 2006

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
W5b	fugitive	kyanite truck loadout, 1957	100 tons/hr,	Total enclosure	Kyanite Bagging Building	PM, PM-10	May 22, 2006
W4g1 & W4g2	fugitive	kyanite truck loadout, 2005	40 tons/hr,	Fabric filter	DC1	PM, PM-10	May 22, 2006
W4k	fugitive	kyanite truck loadout, 2005	20 tons/hr,	Fabric filter	DC1	PM, PM-10	May 22, 2006
W4c.1 & W4c.2	fugitive	10' x 20' magnetite storage bins, 1957	10 tons/hr, each	enclosure	none	PM, PM-10	May 22, 2006
W5.1 thru W5.3	fugitive	single spout kyanite bagging machines, 1957	10 tons/hr, each	Total enclosure, 1957	Kyanite Bagging building	PM, PM-10	May 22, 2006
W8	fugitive	dry kyanite truck dump, 1957	150 tons/hr	None			May 22, 2006
W4a	fugitive	Magnetic separator, 1957	10 tons/hr	Total enclosure	Magnet Building	PM, PM-10	May 22, 2006
W4b, W4d, W4f	fugitive	3 - 18" belt conveyors, 1957	150 tons/hr, each	enclosure	None	PM, PM-10	May 22, 2006
W4a.2, W4a.3	fugitive	2 - 24" bucket elevators, 1957	10 tons/hr, each	Enclosure	Magnet Building	PM, PM-10	May 22, 2006
W8a	fugitive	24' bucket elevator, 1957	150 tons/hr	Enclosure	None	PM, PM-10	May 22, 2006
W4h	fugitive	bucket elevator, 2005, NSPS	40 tons/hr	Total enclosure, 2005	Kyanite Bagging building & DC1	PM, PM-10	May 22, 2006
W4e.2 thru W4e.6	fugitive	20' x 50' kyanite storage bins, 1957	10 tons/hr, each	Total enclosure, 1957	Kyanite Bagging building	PM, PM-10	May 22, 2006
W5a.1, W5a.2	fugitive	10' x 20' kyanite storage bins, 1957	150 tons/hr, each	Total enclosure, 1957	Kyanite Bagging building	PM, PM-10	May 22, 2006
W5a.3 & W5c	fugitive	6' x 12' kyanite storage bins, 2005, NSPS	20 tons/hr, each	Total enclosure, 2005	Kyanite Bagging building & DC1	PM, PM-10	May 22, 2006

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
W4L & W4i	fugitive	10' x 25' kyanite storage bins, 2005, NSPS	40 tons/hr, each	Total enclosure, 2005	Kyanite Bagging building & DC1	PM, PM-10	May 22, 2006
W4j	fugitive	9' x 25' kyanite storage bins, 2005, NSPS	20 tons/hr, each	Total enclosure, 2005	Kyanite Bagging building & DC1	PM, PM-10	May 22, 2006
W4c.2	fugitive	magnetite truck load-out, 1957	25 tons/hr	none			May 22, 2006
Willis Mountain Plant - Sand processing equipment							
W6a	fugitive	1 - 35' bucket elevator, 1957	6 tons/hr	Total enclosure, 1957	Sand Bagging Building	PM, PM-10	May 22, 2006
W7	fugitive	1 - single spout bagging machine, 1957	10 tons/hr	Total enclosure, 1957	Sand Bagging Building	PM, PM-10	May 22, 2006
W6b	fugitive	75-ton dry sand storage bin, 1957	25 tons/hr	Total enclosure, 1957	Sand Bagging Building	PM, PM-10	May 22, 2006
W7b	fugitive	truck load-out, 1957	6 tons/hr	Total enclosure, 1957	Sand Bagging Building	PM, PM-10	May 22, 2006
W6b2	fugitive	32’ x 14’ dry sand storage bin, 2005, NSPS	45 tons/hr	Total enclosure, 2005	Sand Bagging Building	PM, PM-10	May 22, 2006
W7b2	fugitive	manual valve enclosed truck loadout, 2005, NSPS	45 tons/hr	Total enclosure, 2005	Sand Bagging Building	PM, PM-10	May 22, 2006
W3l.1 & W3l.2	fugitive	24" belt conveyors, 1957	<100 tons/hr, each	Wet process			May 22, 2006
W3k	fugitive	18" belt conveyor, 1957	100 tons/hr	Wet process			May 22, 2006

*The Size/Rated capacity is provided for informational purposes only, and is not an applicable requirement.
Note: AST is an above ground storage tank

III. Fuel Burning Equipment Requirements – East Ridge dryer/cooler (Ref. E5.1 and E5.2), Gieseke kiln (Ref. G5), Willis Mountain dryer/cooler (Ref. W4.1 and W4.2), Willis Mountain sand dryer (Ref. W6), and 575 HP diesel powered dredge (Ref. Dredge)

A. East Ridge dryer/cooler (Ref. E5.1 and E5.2)

1. **Limitations**

a. **Emission Controls -** Filterable particulate matter (PM, PM-10) emissions from the East Ridge fluid bed dryer/cooler (Ref. E5.1 & E5.2) shall be controlled by a Croll-Reynolds wet electrostatic precipitator (WESP) having a design control efficiency of not less than 99.9 %. The WESP shall be provided with adequate access for inspection and each control device shall be in operation when the dryer/cooler is in operation.
(9 VAC 5-80-110 and Condition 2 of May 22, 2006 permit)

b. **Emission Controls -** Sulfur dioxide (SO_2) and hydrogen fluoride (HF) emissions from the East Ridge fluid bed dryer/cooler (Ref. E5.1 & E5.2) shall be controlled by a Croll-Reynolds WESP having a control efficiency of not less than 97.0 % for SO_2 and 99.0% for HF. The WESP shall be provided with adequate access for inspection and shall be in operation when the when the dryer/cooler is in operation.
(9 VAC 5-80-110 and Condition 3 of May 22, 2006 permit)

c. **Emission Controls** - Carbon monoxide (CO) emissions from the East Ridge cooler (Ref. E5.2) shall be minimized by recirculation of the exhaust gas into the East Ridge dryer (Ref. E5.1) and shall be in operation when the cooler is in operation.
(9 VAC 5-40-260, 9 VAC 5-80-110, and Condition 4 of May 22, 2006 permit)

d. **Processing** - The East Ridge dryer/cooler (Ref. E5.1 & E5.2) shall process no more than 130,000 tons of kyanite per year, calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.
(9 VAC 5-80-110 and Condition 32 of May 22, 2006 permit)

e. **Fuel** - The approved fuels for the East Ridge dryer/cooler (Ref. E5.1 & E5.2) are distillate oil, residual oil, recycled oil, and wood. A change in the fuel may require a permit to modify and operate.
(9 VAC 5-80-110 and Condition 45 of May 22, 2006 permit)

f. **Fuel Throughput** - The East Ridge dryer/cooler (Ref. E5.1 & E5.2) shall consume no more than 2.56×10^{11} Btus per year of any combination of distillate oil, residual oil, recycled oil, and wood, calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.
(9 VAC 5-80-110 and Condition 49 of May 22, 2006 permit)

g. **Emission Limits** - Emissions from the operation of the East Ridge dryer/cooler (Ref. E5.1 & E5.2) shall not exceed the limits specified below:

Total Particulate Matter, including condensable matter	0.04 gr/dscf
Total PM-10, including condensable matter	0.04 gr/dscf
Filterable Particulate Matter	0.02 gr/dscf
Filterable PM-10	0.02 gr/dscf
Sulfur Dioxide	43.08 lbs/hr
Nitrogen Oxides (as NO2)	27.00 lbs/hr
Carbon Monoxide	63.00 lbs/hr
Hydrogen Fluoride	2.53 lb/hr

(9 VAC 5-80-110 and Condition 64 of May 22, 2006 permit)

h. **Visible Emission Limit** - Visible emissions from the East Ridge WESP exhaust stack (Ref. EWESP) shall not exceed 10 percent opacity as determined by EPA Method 9 (reference 40 CFR 60, Appendix A). This condition applies at all times except during startup, shutdown and malfunction.
(9 VAC 5-80-110 and Condition 89 of May 22, 2006 permit)

2. **Monitoring**

a. **Monitoring Devices** - The East Ridge dryer/cooler's (Ref. E5.1 and E5.2) WESP (Ref. EWESP) shall be equipped with a device to continuously measure the flow rate of the scrubber liquid recycle, and fresh water make up, the pH of the scrubbing solution recycle stream, the secondary voltage (volts) and current (amps), inlet and outlet temperature, or alternative monitoring methods as approved by the South Central Regional Office for the WESP. The WESP's

secondary voltage (volts) and current (amps), flow rates of the scrubber liquid recycle stream, fresh water make up stream(s), inlet and outlet temperatures, pH monitoring device(s), and alternative monitoring methods as approved by the South Central Regional Office shall be continuously recorded. Each monitoring device shall be installed, maintained, calibrated and operated in accordance with approved procedures which shall include, as a minimum, the manufacturer's written requirements or recommendations. Each monitoring device shall be provided with adequate access for inspection and shall be in operation when the WESP is operating.
(9 VAC 5-80-110 and Condition 24 of May 22, 2006 permit)

b. **Monitoring Device Observation** - The WESP (Ref. EWESP) monitoring devices used to continuously measure the flow rates of the scrubber liquid recycle stream, inlet and outlet temperatures, and fresh water make up stream(s), and the pH of the scrubbing solution recycle stream, the secondary voltage (volts) and current (amps) or alternative monitoring methods as approved by the South Central Regional Office for the WESP shall be observed by the permittee with a frequency of not less than once per shift (8-hour period) to ensure good performance of the WESP. The permittee shall keep a log of the observations for the WESP.
(9 VAC 5-80-110 and Condition 27 of May 22, 2006 permit)

c. **Predictive Emissions Monitoring** - The permittee shall monitor the flow rates of the scrubber liquid recycle stream, and fresh water make up stream(s), and the pH of the scrubbing solution recycle stream, the secondary voltage (volts) and current (amps), inlet and outlet temperatures, or alternative monitoring methods as approved by the South Central Regional Office for the WESP (Ref. EWESP) during the performance tests to determine the optimum operating ranges necessary to demonstrate compliance to the pollutant control efficiency and emission rates. The permittee shall keep a log of the observations for the WESP.
(9 VAC 5-80-110 and Condition 28 of May 22, 2006 permit)

3. **Periodic Monitoring**
At least one time per calendar week an observation of the presence of visible emissions from the EWESP stack shall be made. The presence of visible emissions shall require the permittee to:

(1) take timely corrective action such that the EWESP, with visible emissions, resumes operation with no visible emissions, or,

(2) conduct a visible emission evaluation (VEE) on the EWESP stack, with visible emissions, in accordance with EPA Method 9 (reference 40 CFR 60, Appendix A) for a minimum of six (6) minutes, to assure visible emissions from the EWESP stack are 10 percent opacity or less. If any of the observations exceed the opacity limitation of 10 percent, the observation

period shall continue until a total of sixty (60) minutes of observation have been completed. Timely corrective action shall be taken, if necessary, such that the EWESP resumes operation within the 10 percent opacity limit.

(3) The permittee shall maintain an EWESP stack observation log to demonstrate compliance. The logs shall include the date and time of the observations, whether or not there were visible emissions, the results of all VEEs, any necessary corrective action, and the name of the observer. If the East Ridge dryer/cooler (Ref. E5.1 and E5.2) has not been operated for any period during the week it shall be noted in the log book that the unit was not operating, and an observation was not required.

(4) At a frequency not to exceed five years, the permittee shall conduct stack tests for PM, SO_2, NOx, and CO from the East Ridge dryer/cooler's (Ref. E5.1 and E5.2) WESP (Ref. EWESP) exhaust, using Reference Methods 5, 202, 6C, 7E, 9, and 10B, respectively (reference 40 CFR 60, Appendix A) or alternative test methods as approved by the South Central Regional Office, to determine compliance with the emission limits and control efficiency requirements contained in Conditions 1.b and 1.g of this section, above. The tests shall be performed in the fifth (5^{th}) year of this permit. The tests shall be conducted and reported and data reduced as set forth in 9 VAC 5-50-30. The details of the tests shall be arranged with the South Central Regional Office. The permittee shall submit a test protocol at least 30 days prior to testing. Two copies of the test results shall be submitted to the South Central Regional Office within 60 days after test completion and shall conform to the test report format enclosed with this permit.

(9 VAC 5-80-110 E and 9 VAC 5-80-110 K)

4. **Recordkeeping**

The permittee shall maintain records of all emission data and operating parameters necessary to demonstrate compliance with this permit. The content and format of such records shall be arranged with the South Central Regional Office. These records shall include, but are not limited to:

a. Annual production of kyanite for the East Ridge dryer/cooler (Ref. E5.1 and E5.2), in tons, calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.

b. Annual fuel consumption in Btus per year for the East Ridge dryer/cooler (Ref. E5.1 and E5.2), calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated

monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.

c. Operation and control device monitoring records for the WESP (Ref. EWESP).

d. Scheduled and unscheduled maintenance and operator training to all air pollution control devices.

e. Results of all stack tests, visual emissions examinations (VEE), periodic monitoring, and performance evaluations.

f. Copies of all notifications required by Condition 5 of this section, below.

g. All fuel supplier certifications.

These records shall be available for inspection by the DEQ and shall be current for the most recent five years.
(9 VAC 5-50-110 and Condition 93 of May 22, 2006 permit)

5. **Reporting**
The permittee shall submit written reports in accordance with General Condition VIII.C.
(9 VAC 5-80-110 F)

B. Gieseke kiln (Ref. G5)

1. **Limitations**

a. **Emission Controls -** Filterable particulate matter (PM, PM-10) emissions from the Gieseke kiln (Ref. G5) shall be controlled by a Croll-Reynolds wet electrostatic precipitator (WESP) or equivalent control device having a design control efficiency of not less than 99.9 %. The WESP or equivalent control device shall be provided with adequate access for inspection and each control device shall be in operation when the kiln is in operation.
(9 VAC 5-80-110 and Condition 2 of May 22, 2006 permit)

b. **Emission Controls -** Sulfur dioxide (SO_2) and hydrogen fluoride (HF) emissions from the Gieseke kiln (Ref. G5) shall be controlled by a Croll-Reynolds WESP or equivalent control device having a control efficiency of not less than 97.0 % for SO_2 and 99.0% for HF. The WESP or equivalent control device shall be provided with adequate access for inspection and shall be in operation when the when the kiln is in operation.
(9 VAC 5-80-110 and Condition 3 of May 22, 2006 permit)

c. **Processing** - The Gieseke kiln (Ref. G5) shall process no more than 65,000 tons of mullite per year, calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.
(9 VAC 5-80-110 and Condition 33 of May 22, 2006 permit)

d. **Fuel** - The approved fuels for the Gieseke kiln (Ref. G5) are coal, distillate oil, and residual oil. A change in the fuel may require a permit to modify and operate.
(9 VAC 5-80-110 and Condition 46 of May 22, 2006 permit)

e. **Fuel Throughput** - The Gieseke kiln (Ref. G5) shall consume no more than a total of 2.71×10^{11} Btus per year of any combination of distillate oil, residual oil, and coal, calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.
(9 VAC 5-80-110 and Condition 50 of May 22, 2006 permit)

f. **Emission Limits** - Emissions from the operation of the Gieseke kiln (Ref. G5) shall not exceed the limits specified below:

Total Particulate Matter, including condensable matter	0.02 gr/dscf
Total PM-10, including condensable matter	0.02 gr/dscf
Sulfur Dioxide	9.00 lbs/hr
Nitrogen Oxides (as NO2)	30.70 lbs/hr
Carbon Monoxide	11.80 lbs/hr
Hydrogen Fluoride	0.16 lb/hr

(9 VAC 5-80-110 and Condition 65 of May 22, 2006 permit)

g. **Visible Emission Limit** - Visible emissions from the Gieseke kiln's (Ref. G5) WESP or equivalent control device exhaust stack (Ref. GWESP) shall not exceed 10 percent opacity as determined by EPA Method 9 (reference 40 CFR 60, Appendix A). This condition applies at all times except during startup, shutdown and malfunction.
(9 VAC 5-80-110 and Condition 89 of May 22, 2006 permit)

h. **Requirement to Submit Stack Parameters** - The permittee shall submit a written statement including all pertinent stack parameters sufficient for computer

modeling or submit approved computer modeling for the proposed Gieseke WESP (Ref. GWESP) or equivalent control device to the South Central Regional Office prior to commencement of construction of the control device.
(9 VAC 5-80-110 and Condition 59 of May 22, 2006 permit)

2. **Monitoring**

a. **Monitoring Devices** - The WESP or equivalent control device (Ref. GWESP) shall be equipped with a device to continuously measure the flow rate of the scrubber liquid recycle, and fresh water make up, the pH of the scrubbing solution recycle stream, the secondary voltage (volts) and current (amps), inlet and outlet temperature, or alternative monitoring methods as approved by the South Central Regional Office for the WESP. The WESP's secondary voltage (volts) and current (amps), flow rates of the scrubber liquid recycle stream, fresh water make up stream(s), inlet and outlet temperatures, pH monitoring device(s), and alternative monitoring methods as approved by the South Central Regional Office shall be continuously recorded. Each monitoring device shall be installed, maintained, calibrated and operated in accordance with approved procedures which shall include, as a minimum, the manufacturer's written requirements or recommendations. Each monitoring device shall be provided with adequate access for inspection and shall be in operation when the WESP is operating.
(9 VAC 5-80-110 and Condition 24 of May 22, 2006 permit)

b. **Monitoring Device Observation** - The WESP or equivalent control device (Ref. GWESP) monitoring devices used to continuously measure the flow rates of the scrubber liquid recycle stream, inlet and outlet temperatures, and fresh water make up stream(s), and the pH of the scrubbing solution recycle stream, the secondary voltage (volts) and current (amps) or alternative monitoring methods as approved by the South Central Regional Office for the WESP shall be observed by the permittee with a frequency of not less than once per shift (8-hour period) to ensure good performance of the WESP. The permittee shall keep a log of the observations for the WESP.
(9 VAC 5-80-110 and Condition 27 of May 22, 2006 permit)

c. **Predictive Emissions Monitoring** - The permittee shall monitor the flow rates of the scrubber liquid recycle stream, and fresh water make up stream(s), and the pH of the scrubbing solution recycle stream, the secondary voltage (volts) and current (amps), inlet and outlet temperatures, or alternative monitoring methods as approved by the South Central Regional Office for the WESP or equivalent control device (Ref. GWESP) during the performance tests to determine the optimum operating ranges necessary to demonstrate compliance to the pollutant control efficiency and emission rates. The permittee shall keep a log of the observations for the WESP.
(9 VAC 5-80-110 and Condition 28 of May 22, 2006 permit)

3. **Initial Performance Testing**

   a. **Stack Test -** Initial performance tests shall be conducted for PM, SO_2, NOx, and CO from the Gieseke WESP (Ref. GWESP) exhaust, using Reference Methods 5, 202, 6C, 7E, 9, and 10B, respectively (reference 40 CFR 60, Appendix A) or alternative test methods as approved by the South Central Regional Office, to determine compliance with the emission limits and control efficiency requirements contained in Conditions 1.b and 1.f of this section, above; and to determine predictive emissions monitoring data as required in Condition 2.c of this section, above. The tests shall be performed, within 60 days after achieving the maximum production rate at which the facility will be operated but in no event later than 180 days after start-up of the permitted facility. Tests shall be conducted and reported and data reduced as set forth in 9 VAC 5-50-30, and the test methods and procedures contained in each applicable section or subpart listed in 40 CFR 60, Appendix A. The details of the tests are to be arranged with the South Central Regional Office. The permittee shall submit a test protocol at least 30 days prior to testing. Two copies of the test results shall be submitted to the South Central Regional Office within 45 days after test completion and shall conform to the test report format enclosed with this permit.
   (9 VAC 5-80-110 and Condition 95 of May 22, 2006 permit)

   b. **Visible Emissions Evaluation** - Concurrently with the performance tests as required in Condition a of this section, above, Visible Emission Evaluations (VEE) in accordance with 40 CFR Part 60, Appendix A, Method 9, shall be conducted by the permittee on the Gieseke WESP (Ref. GWESP) exhaust. Each test shall consist of ten sets of 24 consecutive observations (at 15 second intervals) to yield a six minute average. The details of the tests are to be arranged with the South Central Regional Office. The evaluation shall be performed, and reported within 60 days after the date of this permit. Should conditions prevent concurrent opacity observations, the South Central Regional Office shall be notified in writing, within seven days, and visible emissions testing shall be rescheduled within 30 days. Rescheduled testing shall be conducted under the same conditions (as possible) as the initial performance tests. One copy of the test result shall be submitted to the South Central Regional Office within 45 days after test completion and shall conform to the test report format enclosed with this permit.
   (9 VAC 5-80-110 and Condition 96 of May 22, 2006 permit)

   c. **Stack Test Results -** Not later than 90 days after the completion of the final test from the Gieseke WESP (Ref. GWESP) required in Condition a of this section, above, the permittee shall submit to DEQ the proposed revised emission factors and the related revised throughput limits, fuel consumption, and emission limits such that this facility does not exceed 249 tons/yr of any single regulated air pollutant. DEQ will consider the proposed revisions and, after negotiations with the permittee, may amend this current permit as negotiated. Any requests for

increases to the emissions limits listed above will be subject to appropriate permitting review.
(9 VAC 5-80-110, 9 VAC 5-80-850, and Condition 97 of May 22, 2006 permit)

4. **Periodic Monitoring**
At least one time per calendar week an observation of the presence of visible emissions from the GWESP stack shall be made. The presence of visible emissions shall require the permittee to:

(1) take timely corrective action such that the GWESP, with visible emissions, resumes operation with no visible emissions, or,

(2) conduct a visible emission evaluation (VEE) on the GWESP stack, with visible emissions, in accordance with EPA Method 9 (reference 40 CFR 60, Appendix A) for a minimum of six (6) minutes, to assure visible emissions from the GWESP stack are 10 percent opacity or less. If any of the observations exceed the opacity limitation of 10 percent, the observation period shall continue until a total of sixty (60) minutes of observation have been completed. Timely corrective action shall be taken, if necessary, such that the GWESP resumes operation within the 10 percent opacity limit.

(3) The permittee shall maintain a GWESP stack observation log to demonstrate compliance. The logs shall include the date and time of the observations, whether or not there were visible emissions, the results of all VEEs, any necessary corrective action, and the name of the observer. If the Gieseke kiln (Ref. G5) has not been operated for any period during the week it shall be noted in the log book that the unit was not operating, and an observation was not required

(9 VAC 5-80-110 E and 9 VAC 5-80-110 K)

5. **Recordkeeping**
The permittee shall maintain records of all emission data and operating parameters necessary to demonstrate compliance with this permit. The content and format of such records shall be arranged with the South Central Regional Office. These records shall include, but are not limited to:

a. Annual production of mullite for the Gieseke kiln (Ref. G5), in tons, calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.

b. Annual fuel consumption in Btus per year, in the Gieseke kiln (Ref. G5), calculated monthly as the sum of each consecutive 12-month period. Compliance

for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.

c. Operation and control device monitoring records for the WESP or equivalent control device (Ref. GWESP).

d. Scheduled and unscheduled maintenance and operator training to all air pollution control devices.

e. Results of all stack tests, visual emissions examinations (VEE), periodic monitoring, and performance evaluations.

f. Copies of all notifications required by Condition 6 of this section, below.

g. All fuel supplier certifications.

These records shall be available for inspection by the DEQ and shall be current for the most recent five years.
(9 VAC 5-50-110 and Condition 93 of May 22, 2006 permit)

6. **Reporting**
The permittee shall submit written reports in accordance with General Condition VIII.C
(9 VAC 5-80-110 F)

C. Willis Mountain dryer/cooler (Ref. W4.1 and W4.2)

1. **Limitations**

a. **Emission Controls -** Filterable particulate matter (PM, PM-10) emissions from the Willis Mountain dryer/cooler (Ref. W4.1 and W4.2) shall be controlled by a Croll-Reynolds wet electrostatic precipitator (WESP) having a design control efficiency of not less than 99.9 %. The WESP shall be provided with adequate access for inspection and each control device shall be in operation when the dryer/cooler is in operation.
(9 VAC 5-80-110 and Condition 2 of May 22, 2006 permit)

b. **Emission Controls -** Sulfur dioxide (SO_2) and hydrogen fluoride (HF) emissions from the Willis Mountain dryer/cooler (Ref. W4.1 and W4.2) shall be controlled by a WESP having a control efficiency of not less than 97.0 % for SO_2 and 99.0% for HF. The WESP shall be provided with adequate access for inspection and shall be in operation when the when the dryer/cooler is in operation.
(9 VAC 5-80-110 and Condition 3 of May 22, 2006 permit)

c. **Emission Controls** - Carbon monoxide (CO) emissions from the Willis Mountain cooler (Ref. W4.2) shall be minimized by recirculation of the exhaust into the Willis Mountain dryer (Ref. W4.1) and shall be in operation when the cooler is in operation.
(9 VAC 5-80-110 and Condition 5of May 22, 2006 permit)

d. **Processing** - The Willis Mountain dryer/cooler (Ref. W4.1 and 4.2) shall process no more than 55,000 tons of kyanite per year, calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.
(9 VAC 5-80-110 and Condition 35 of May 22, 2006 permit)

e. **Fuel** - The approved fuels for the Willis Mountain dryer/cooler (Ref. W4.1 and W4.2) are distillate oil, residual oil, and recycled oil. A change in the fuel may require a permit to modify and operate.
(9 VAC 5-80-110 and Condition 47 of May 22, 2006 permit)

f. **Fuel Throughput** - The Willis Mountain dryer/cooler (Ref. W4.1 and W4.2) shall consume no more than 9.82×10^{10} Btus per year of any combination of distillate oil, residual oil, and recycled oil, calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.
(9 VAC 5-80-110 and Condition 51 of May 22, 2006 permit)

g. **Emission Limits** - Emissions from the operation of the Willis Mountain dryer/cooler (Ref. W4.1 and W4.2) shall not exceed the limits specified below:

Total Particulate Matter, including condensible matter	0.02 gr/dscf
Total PM-10, including condensible matter	0.02 gr/dscf
Sulfur Dioxide	13.39 lbs/hr
Nitrogen Oxides (as NO2)	9.00 lbs/hr
Carbon Monoxide	27.00 lbs/hr
Hydrogen Fluoride	0.84 lb/hr

(9 VAC 5-80-110 and Condition 66 of May 22, 2006 permit)

h. **Visible Emission Limit** - Visible emissions from the Willis Mountain WESP exhaust stack (Ref. WWESP) shall not exceed 10 percent opacity as determined by EPA Method 9 (reference 40 CFR 60, Appendix A). This condition applies at all times except during startup, shutdown and malfunction.
(9 VAC 5-80-110, and Condition 89 of May 22, 2006 permit)

2. **Monitoring**

a. **Monitoring Devices** - The Willis Mountain dryer/cooler's (Ref. W4.1 and W 4.2) WESP (Ref. WWESP) shall be equipped with a device to continuously measure the flow rate of the scrubber liquid recycle, and fresh water make up, the pH of the scrubbing solution recycle stream, the secondary voltage (volts) and current (amps), inlet and outlet temperature, or alternative monitoring methods as approved by the South Central Regional Office for the WESP. The WESP's secondary voltage (volts) and current (amps), flow rates of the scrubber liquid recycle stream, fresh water make up stream(s), inlet and outlet temperatures, pH monitoring device(s), and alternative monitoring methods as approved by the South Central Regional Office shall be continuously recorded. Each monitoring device shall be installed, maintained, calibrated and operated in accordance with approved procedures which shall include, as a minimum, the manufacturer's written requirements or recommendations. Each monitoring device shall be provided with adequate access for inspection and shall be in operation when the WESP is operating.
(9 VAC 5-80-110 and Condition 24 of May 22, 2006 permit)

b. **Monitoring Device Observation** - The WESP (Ref. WWESP) monitoring devices used to continuously measure the flow rates of the scrubber liquid recycle stream, inlet and outlet temperatures, and fresh water make up stream(s), and the pH of the scrubbing solution recycle stream, the secondary voltage (volts) and current (amps) or alternative monitoring methods as approved by the South Central Regional Office for the WESP shall be observed by the permittee with a frequency of not less than once per shift (8-hour period) to ensure good performance of each WESP. The permittee shall keep a log of the observations for the WESP.
(9 VAC 5-80-110 and Condition 27 of May 22, 2006 permit)

c. **Predictive Emissions Monitoring** - The permittee shall monitor the flow rates of the scrubber liquid recycle stream, and fresh water make up stream(s), and the pH of the scrubbing solution recycle stream, the secondary voltage (volts) and current (amps), inlet and outlet temperatures, or alternative monitoring methods as approved by the South Central Regional Office for WESP (Ref. WWESP) during the performance tests to determine the optimum operating ranges necessary to demonstrate compliance to the pollutant control efficiency and emission rates. The permittee shall keep a log of the observations for the WESP.
(9 VAC 5-80-110 and Condition 28 of May 22, 2006 permit)

3. **Periodic Monitoring**
At least one time per calendar week an observation of the presence of visible emissions from the WWESP stack shall be made. The presence of visible emissions shall require the permittee to:

(1) take timely corrective action such that the WWESP, with visible emissions, resumes operation with no visible emissions, or,

(2) conduct a visible emission evaluation (VEE) on the WWESP stack, with visible emissions, in accordance with EPA Method 9 (reference 40 CFR 60, Appendix A) for a minimum of six (6) minutes, to assure visible emissions from the WWESP stack are 10 percent opacity or less. If any of the observations exceed the opacity limitation of 10 percent, the observation period shall continue until a total of sixty (60) minutes of observation have been completed. Timely corrective action shall be taken, if necessary, such that the WWESP resumes operation within the 10 percent opacity limit.

(3) The permittee shall maintain a WWESP stack observation log to demonstrate compliance. The logs shall include the date and time of the observations, whether or not there were visible emissions, the results of all VEEs, any necessary corrective action, and the name of the observer. If the Willis Mountain dryer/cooler (Ref. W4.1 and W4.2) has not been operated for any period during the week it shall be noted in the log book that the unit was not operating, and an observation was not required.

(4) At a frequency not to exceed five years, the permittee shall conduct stack tests for PM, SO_2, NOx, and CO from the Willis Mountain WESP (Ref. WWESP) exhaust, using Reference Methods 5, 202, 6C, 7E, 9, and 10B, respectively (reference 40 CFR 60, Appendix A) or alternative test methods as approved by the South Central Regional Office, to determine compliance with the emission limits and control efficiency requirements contained in Conditions 1.b and 1.g of this section, above. The tests shall be performed in the fifth (5^{th}) year of this permit. The tests shall be conducted and reported and data reduced as set forth in 9 VAC 5-50-30. The details of the tests shall be arranged with the South Central Regional Office. The permittee shall submit a test protocol at least 30 days prior to testing. Two copies of the test results shall be submitted to the South Central Regional Office within 60 days after test completion and shall conform to the test report format enclosed with this permit.

(9 VAC 5-80-110 E and 9 VAC 5-80-110 K)

4. **Recordkeeping**
The permittee shall maintain records of all emission data and operating parameters

necessary to demonstrate compliance with this permit. The content and format of such records shall be arranged with the South Central Regional Office. These records shall include, but are not limited to:

a. Annual production of kyanite for the Willis Mountain dryer/cooler's (Ref. W4.1 and W 4.2), in tons, calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.

b. Annual fuel consumption in Btus per year for the Willis Mountain dryer/cooler's (Ref. W4.1 and W 4.2), calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.

c. Operation and control device monitoring records for the WESP (Ref. WWESP).

d. Scheduled and unscheduled maintenance and operator training to all air pollution control devices.

e. Results of all stack tests, visual emissions examinations (VEE), periodic monitoring, and performance evaluations.

f. Copies of all notifications required by Condition 5 of this section, below.

g. All fuel supplier certifications.

These records shall be available for inspection by the DEQ and shall be current for the most recent five years.
(9 VAC 5-80-110 and Condition 93 of May 22, 2006 permit)

5. **Reporting**
The permittee shall submit written reports in accordance with General Condition VIII.C
(9 VAC 5-80-110 F)

D. Willis Mountain sand dryer (Ref. W6)

1. **Limitations**

a. **Emission Controls** - Particulate matter (PM) and PM-10 emissions from the Willis Mountain sand dryer (Ref. W6) shall be controlled by a wet cyclone having a design control efficiency of 85.0 % and 60.0%, respectively. The wet cyclone

shall be provided with adequate access for inspection and each control device shall be in operation when the sand dryer is in operation.
(9 VAC 5-80-110 and Condition 6 of May 22, 2006 permit)

b. **Processing** - The Willis Mountain sand dryer (Ref. W6) shall process no more than 25,000 tons of sand per year, calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.
(9 VAC 5-80-110 and Condition 36 of May 22, 2006 permit)

c. **Fuel** - The approved fuels for the Willis Mountain sand dryer (Ref. W6) are distillate oil, residual oil, and recycled oil. A change in the fuel may require a permit to modify and operate.
(9 VAC 5-80-110 and Condition 47 of May 22, 2006 permit)

d. **Fuel Throughput** - The Willis Mountain sand dryer (Ref. W6) shall consume no more than 120,000 gallons of approved fuels, consisting of no more than 115,000 gallons of either residual oil or recycled oil per year, calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.
(9 VAC 5-80-110 and Condition 52 of May 22, 2006 permit)

e. **Emission Limits** - Emissions from the operation of the Willis Mountain sand dryer (Ref. W6) shall not exceed the limits specified below:

Particulate Matter, including condensable matter	1.80 lbs/hr
PM-10, including condensable matter	0.48 lbs/hr
Sulfur Dioxide	11.41 lbs/hr
Nitrogen Oxides (as NO2)	0.19 lbs/hr
Carbon Monoxide	2.40 lbs/hr

(9 VAC 5-80-110 and Condition 67of May 22, 2006 permit)

f. **Visible Emission Limit** - Visible emissions from the Willis Mountain sand dryer wet cyclone (Ref. WCYC) exhaust stack shall not exceed 20 percent opacity except during one six-minute period in any one hour in which visible emissions

shall not exceed 60 percent opacity as determined by EPA Method 9 (reference 40 CFR 60, Appendix A).
(9 VAC 5-80-110 and Condition 90 of May 22, 2006 permit)

2. **Monitoring**
The Willis Mountain sand dryer's wet cyclone (Ref. WCYC) shall be equipped with a device to continuously measure the differential pressure drop across the wet cyclone. The monitoring device shall be installed, maintained, calibrated and operated in accordance with approved procedures which shall include, as a minimum, the manufacturer's written requirements or recommendations. The monitoring device shall be provided with adequate access for inspection and shall be in operation when the wet cyclone is operating.
(9 VAC 5-80-110 and Condition 26 of May 22, 2006 permit)

3. **Periodic Monitoring**
At least one time per calendar week an observation of the presence of visible emissions from the WCYC stack shall be made. The presence of visible emissions shall require the permittee to:

(1) take timely corrective action such that the WCYC, with visible emissions, resumes operation with no visible emissions, or,

(2) conduct a visible emission evaluation (VEE) on the WCYC stack, with visible emissions, in accordance with EPA Method 9 (reference 40 CFR 60, Appendix A) for a minimum of six (6) minutes, to assure visible emissions from the WCYC stack are 20 percent opacity or less. If any of the observations exceed the opacity limitation of 20 percent, the observation period shall continue until a total of sixty (60) minutes of observation have been completed. Timely corrective action shall be taken, if necessary, such that the WCYC resumes operation within the 20 percent opacity limit.

(3) If visible emissions observations conducted during twelve (12) consecutive weeks show no visible emissions for a particular stack, the permittee may reduce the monitoring frequency to once per month for that stack. Anytime the monthly visible emissions observations show visible emissions, or when requested by DEQ, the monitoring frequency shall be increased to once per week for that stack.

(4) The permittee shall maintain a WCYC stack observation log to demonstrate compliance. The logs shall include the date and time of the observations, whether or not there were visible emissions, the results of all VEEs, any necessary corrective action, and the name of the observer. If the Willis Mountain sand dryer (Ref. W7) has not been operated for any period during the week it shall be noted in the log book that the unit was not operating, and an observation was not required.

(5) At a frequency not to exceed five years, the permittee shall conduct a stack test for PM from the Willis Mountain wet cyclone (Ref. WCYC) exhaust, using Reference Methods 5 and 202 (reference 40 CFR 60, Appendix A) or alternative test methods as approved by the South Central Regional Office, to determine compliance with the emission limits and control efficiency requirements contained in Condition 1.a of this section, above. The tests shall be performed in the first (1st) year of this permit. The tests shall be conducted and reported and data reduced as set forth in 9 VAC 5-50-30. The details of the tests shall be arranged with the South Central Regional Office. The permittee shall submit a test protocol at least 30 days prior to testing. Two copies of the test results shall be submitted to the South Central Regional Office within 60 days after test completion and shall conform to the test report format enclosed with this permit.

(9 VAC 5-80-110 E and 9 VAC 5-80-110 K)

4. **Recordkeeping**
The permittee shall maintain records of all emission data and operating parameters necessary to demonstrate compliance with this permit. The content and format of such records shall be arranged with the South Central Regional Office. These records shall include, but are not limited to:

a. Annual production of sand for the Willis Mountain sand dryer (Ref. W6), in tons, calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.

b. Annual consumption of distillate oil, residual oil, and recycled oil, in gallons, in the Willis Mountain sand dryer (Ref. W6), calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.

c. Scheduled and unscheduled maintenance and operator training to all air pollution control devices.

d. Results of all stack tests, visual emissions examinations (VEE), and periodic monitoring.

e. Copies of all notifications required by Condition 5 of this section, below.

f. All fuel supplier certifications.

These records shall be available for inspection by the DEQ and shall be current for the most recent five years.
(9 VAC 5-50-50 and Condition 93 of May 22, 2006 permit)

5. **Reporting**
The permittee shall submit written reports in accordance with General Condition VIII.C
(9 VAC 5-80-110 F)

E. IC-powered dredge (Ref. Dredge)

1. **Limitations**

a. **Operating Hours** - The IC-powered dredge (Ref. Dredge) shall not operate more than 2,000 hours per year, calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.
(9 VAC 5-80-110 and Condition 41 of May 22, 2006 permit)

b. **Fuel** - The approved fuels for the IC-powered dredge (Ref. Dredge) is distillate oil. A change in the fuel may require a permit to modify and operate.
(9 VAC 5-80-110 and Condition 48 of May 22, 2006 permit)

c. **Emission Limits** - Emissions from the operation of the IC-powered dredge (Ref. Dredge) exhaust stack shall not exceed the limits specified below:

Sulfur Dioxide	2.12 lbs/hr
Nitrogen Oxides	12.60 lbs/hr
Carbon Monoxide	3.12 lbs/hr

(9 VAC 5-80-110 and Condition 68 of May 22, 2006 permit)

d. **Visible Emission Limit** - Visible emissions from the IC-powered dredge (Ref. Dredge) exhaust stack shall not exceed 20 percent opacity except during one six-minute period in any one hour in which visible emissions shall not exceed 60 percent opacity as determined by EPA Method 9 (reference 40 CFR 60, Appendix A).
(9 VAC 5-80-110, 9 VAC 5-40-80, 9 VAC 5-80-850, and Condition 92 of May 22, 2006 permit)

2. **Periodic Monitoring**

At least one time per calendar week an observation of the presence of visible emissions from the IC-powered dredge (Ref. Dredge) exhaust stack shall be made. The presence of visible emissions shall require the permittee to:

a. take timely corrective action such that the IC-powered dredge engine (Ref. Dredge), with visible emissions, resumes operation with no visible emissions, or,

b. conduct a visible emission evaluation (VEE) on the IC-powered dredge (Ref. Dredge) exhaust stack, with visible emissions, in accordance with EPA Method 9 (reference 40 CFR 60, Appendix A) for a minimum of six (6) minutes, to assure visible emissions from the IC powered dredge exhaust are 20 percent opacity or less. If any of the observations exceed the opacity limitation of 20 percent, the observation period shall continue until a total of sixty (60) minutes of observation have been completed. Timely corrective action shall be taken, if necessary, such that the IC powered dredge exhaust resumes operation within the 20 percent opacity limit.

c. If visible emissions observations conducted during twelve (12) consecutive weeks show no visible emissions for a particular stack, the permittee may reduce the monitoring frequency to once per month for that stack. Anytime the monthly visible emissions observations show visible emissions, or when requested by DEQ, the monitoring frequency shall be increased to once per week for that stack.

d. The permittee shall maintain a log of the IC-powered dredge (Ref. Dredge) exhaust stack observation to demonstrate compliance. The logs shall include the date and time of the observations, whether or not there were visible emissions, the results of all VEEs, any necessary corrective action, and the name of the observer. If the IC-powered dredge has not been operated for any period during the week it shall be noted in the log book that the unit was not operating, and an observation was not required.

e. (9 VAC 5-80-110 E and 9 VAC 5-80-110 K)

3. **Recordkeeping**

The permittee shall maintain records of all emission data and operating parameters necessary to demonstrate compliance with this permit. The content and format of such records shall be arranged with the South Central Regional Office. These records shall include, but are not limited to:

a. Annual hours of operation of the IC-powered dredge (Ref. Dredge), calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.

b. Scheduled and unscheduled maintenance and operator training.

c. Results of all visual emissions examinations (VEE) and periodic monitoring.

d. All fuel supplier certifications.

These records shall be available on site for inspection by the DEQ and shall be current for the most recent five (5) years.
(9 VAC 5-80-110 and Condition 93 of May 22, 2006 permit)

4. **Reporting**
The permittee shall submit written reports in accordance with General Condition VIII.C
(9 VAC 5-80-110 F)

IV. Stone Processing Equipment Requirements – Ref. East Ridge Plant, Gieseke Plant, and Willis Mountain Plant

A. East Ridge Plant

1. **Limitations**

a. **Emission Controls** - Particulate emissions from the East Ridge rod mills (Ref. E4f.1, E4f.2) and 30" belt conveyor (Ref. E4e) shall be controlled by totally enclosing the emission units with a building having four walls and a roof.
(9 VAC 5-80-110 and Condition 15 of May 22, 2006 permit)

b. **Emission Controls** - Particulate emissions from the East Ridge Magnet building containing the following emission units: 16" bucket elevators (Ref. E5b, E5e, E5g), 24" belt conveyors (Ref. E5d, E5f), and magnetic separation (Ref. E5c) shall be controlled by a fabric filter. The fabric filter shall be provided with adequate access for inspection and shall be in operation when the 16" bucket elevators (Ref. E5b, E5e, E5g), 24" belt conveyors (Ref. E5d, E5f), and magnetic separation (Ref. E5c) are operating.
(9 VAC 5-80-110 and Condition 16 of May 22, 2006 permit)

c. **Fugitive Emission Controls** - Fugitive emission controls shall include the following, or equivalent, as a minimum:

(1) Particulate matter emissions from kyanite and mullite processing equipment not covered by Conditions a and b of this section, above, shall be controlled by wet suppression or equivalent (as approved by the DEQ).

(2) All material being stockpiled shall be kept adequately moist to control dust during storage and handling or covered at all times to minimize emissions.

(3) Dust from haul roads and traffic areas shall be controlled by the application of asphalt, water, suitable chemicals, or equivalent methods approved by the DEQ.

(4) Reasonable precautions shall be taken to prevent deposition of dirt on public roads and subsequent dust emissions. Dirt, product, or raw material spilled or tracked onto paved surfaces shall be promptly removed to prevent particulate matter from becoming airborne.

(9 VAC 5-80-110 and Condition 23 of May 22, 2006 permit)

d. **Throughput** - The throughput of raw ore through the East Ridge stone processing facility shall not exceed 1,500,000 tons per year, calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.
(9 VAC 5-80-110 and Condition 30 of May 22, 2006 permit)

e. **Emission Limits** - Particulate emissions from the operation of the East Ridge kyanite processing facility, except East Ridge dryer/cooler (Ref. E5.1 & E5.2) shall not exceed the limits specified below:

Particulate Matter	37.3 tons/yr
PM-10	20.8 tons/yr

These emissions are derived from the estimated overall emission contribution from operating limits. Exceedance of the operating limits may be considered credible evidence of the exceedance of emission limits. Compliance with these emission limits may be determined as stated in Condition d of this section, above.
(9 VAC 5-80-110 and Condition 61 of May 22, 2006 permit)

f. **Visible Emission Limit** - Visible emissions from the East Ridge primary and secondary crushing (Ref. E2, E3) shall not exceed 15 percent opacity as determined by EPA Method 9 (reference 40 CFR 60, Appendix A).
(9 VAC 5-80-110 and Condition 72 of May 22, 2006 permit)

g. **Visible Emission Limit** - Visible emissions from the East Ridge tertiary crushing (Ref. E4.1.1, E4.2), screens (Ref. E2d, E3e), stockpiles, belt conveyors (Ref. E2a, E2b, E2c, E3a, E3b, E3c, E3d, E4a, E4b, E4c, E4h, E4i, E5a, E7a, and E4d) and

truck loadout (Ref. E4h.2) shall not exceed 10 percent opacity as determined by EPA Method 9 (reference 40 CFR 60, Appendix A).
(9 VAC 5-80-110 and Condition 73 of May 22, 2006 permit)

h. **Visible Emission Limit** - Visible emissions from the East Ridge Flotation building (enclosure), which the following processing equipment are located, rod mills (Ref. E4f.1, E4f.2), belt conveyor (Ref. E4e), shall not exceed 20 percent opacity except during one six-minute period in any one hour in which visible emissions shall not exceed 30 percent opacity as determined by EPA Method 9 (reference 40 CFR 60, Appendix A).
(9 VAC 5-80-110 and Condition 74 of May 22, 2006 permit)

i. **Visible Emission Limit** - Visible emissions from the East Ridge Magnet building (fabric filter), which the following processing equipment are located, belt conveyors (Ref. E5d, E5f), bucket elevators (Ref. E5b, E5e, E5g), and reject truck loadout (Ref. E5e.2) shall not exceed 10 percent opacity as determined by EPA Method 9 (reference 40 CFR 60, Appendix A).
(9 VAC 5-80-110 and Condition 75 of May 22, 2006 permit)

j. **Visible Emission Limit** - Visible emissions from the East Ridge truck load-out (Ref. E6) shall not exceed 10 percent opacity as determined by EPA Method 9 (reference 40 CFR 60, Appendix A).
(9 VAC 5-80-110 and Condition 76 of May 22, 2006 permit)

k. **Visible Emission Limit** - Visible emissions from the East Ridge saw dust belt conveyors (Ref. E5h.1, E5h.2) shall not exceed 20 percent opacity except during one six-minute period in any one hour in which visible emissions shall not exceed 30 percent opacity as determined by EPA Method 9 (reference 40 CFR 60, Appendix A).
(9 VAC 5-80-110 and Condition 77 of May 22, 2006 permit)

2. **Monitoring**

a. **Monitoring Devices** - The East Ridge Magnet building fabric filter (Ref. E5cBH) shall be equipped with a device to continuously measure the differential pressure drop across the fabric filter. Each monitoring device shall be installed, maintained, calibrated and operated in accordance with approved procedures which shall include, as a minimum, the manufacturer's written requirements or recommendations. Each monitoring device shall be provided with adequate access for inspection and shall be in operation when the fabric filter is operating.
(9 VAC 5-80-110 and Condition 25 of May 22, 2006 permit)

3. **Periodic Monitoring**

a. At least one time per calendar week an observation of the presence of visible emissions from the primary and secondary crushing (Ref. E2, E3), tertiary crushing (Ref. E4.1.1, E4.2), screens (Ref. E2d, E3e), stockpiles, belt conveyors (Ref. E2a, E2b, E2c, E3a, E3b, E3c, E3d, E4a, E4b, E4c, E4h, E4i, E5a, E7a, and E4d), truck loadouts (Ref. E4h.2, E6), saw dust belt conveyors (Ref. E5h.1, E5h.2), East Ridge Flotation building, and Magnet building fabric filter (Ref. E5cBH) exhaust stack shall be made. The presence of visible emissions shall require the permittee to:

(1) take timely corrective action such that the primary and secondary crushing (Ref. E2, E3), tertiary crushing (Ref. E4.1.1, E4.2), screens (Ref. E2d, E3e), stockpiles, belt conveyors (Ref. E2a, E2b, E2c, E3a, E3b, E3c, E3d, E4a, E4b, E4c, E4h, E4i, E5a, E7a, and E4d), truck loadouts (Ref. E4h.2, E6), saw dust belt conveyors (Ref. E5h.1, E5h.2), East Ridge Flotation building, and Magnet building fabric filter (Ref. E5cBH) exhaust stack with visible emissions, resumes operation with no visible emissions, or,

(a) conduct a visible emission evaluation (VEE) on the Magnet building fabric filter (Ref. E5cBH) exhaust stack, truck load-out (Ref. E6), tertiary crushing (Ref. E4.1.1, E4.2), screens (Ref. E2d, E3e), stockpiles, belt conveyors (Ref. E2a, E2b, E2c, E3a, E3b, E3c, E3d, E4a, E4b, E4c, E4h, E4i, E5a, E7a, and E4d), truck loadout (Ref. E4h.2), with visible emissions, in accordance with EPA Method 9 (reference 40 CFR 60, Appendix A) for a minimum of six (6) minutes, to assure visible emissions from the Magnet building fabric filter (Ref. E5cBH) exhaust stack, truck load-out (Ref. E6), tertiary crushing (Ref. E4.1.1, E4.2), screens (Ref. E2d, E3e), stockpiles, belt conveyors (Ref. E2a, E2b, E2c, E3a, E3b, E3c, E3d, E4a, E4b, E4c, E4h, E4i, E5a, E7a, and E4d), truck loadout (Ref. E4h.2) are 10 percent opacity or less. If any of the observations exceed the opacity limitation of 10 percent, the observation period shall continue until a total of sixty (60) minutes of observation have been completed. Timely corrective action shall be taken, if necessary, such that the Magnet building fabric filter (Ref. E5cBH) exhaust stack, truck load-out (Ref. E6), tertiary crushing (Ref. E4.1.1, E4.2), screens (Ref. E2d, E3e), stockpiles, belt conveyors (Ref. E2a, E2b, E2c, E3a, E3b, E3c, E3d, E4a, E4b, E4c, E4h, E4i, E5a, E7a, and E4d), truck loadout (Ref. E4h.2) resumes operation within the 10 percent opacity limit: or

(b) conduct a visible emission evaluation (VEE) on primary and secondary crushing (Ref. E2, E3), with visible emissions, in accordance with EPA Method 9 (reference 40 CFR 60, Appendix A) for a minimum of six (6) minutes, to assure visible emissions from the are 15 percent opacity or less. If any of the observations exceed the opacity limitation of 15 percent, the observation period shall continue until a total of sixty (60) minutes of observation have been completed. Timely corrective action

shall be taken, if necessary, such that the resumes operation within the 15 percent opacity limit; or

(c) conduct a visible emission evaluation (VEE) the Flotation building, saw dust belt conveyors (Ref. E5h.1, E5h.2), with visible emissions, in accordance with EPA Method 9 (reference 40 CFR 60, Appendix A) for a minimum of six (6) minutes, to assure visible emissions from the are 20 percent opacity or less. If any of the observations exceed the opacity limitation of 20 percent, the observation period shall continue until a total of sixty (60) minutes of observation have been completed. Timely corrective action shall be taken, if necessary, such that the resumes operation within the 20 percent opacity limit.

(d) If visible emissions observations conducted during twelve (12) consecutive weeks show no visible emissions for a particular stack or emission unit, the permittee may reduce the monitoring frequency to once per month for that stack or emission unit. Anytime the monthly visible emissions observations show visible emissions, or when requested by DEQ, the monitoring frequency shall be increased to once per week for that stack.

b. The permittee shall maintain a visual observation log for the primary and secondary crushing (Ref. E2, E3), tertiary crushing (Ref. E4.1.1, E4.2), screens (Ref. E2d, E3e), stockpiles, belt conveyors (Ref. E2a, E2b, E2c, E3a, E3b, E3c, E3d, E4a, E4b, E4c, E4h, E4i, E5a, E7a, and E4d), truck loadouts (Ref. E4h.2, E6), saw dust belt conveyors (Ref. E5h.1, E5h.2), East Ridge Flotation building, and Magnet building fabric filter (Ref. E5cBH) exhaust stack to demonstrate compliance. The logs shall include the date and time of the observations, whether or not there were visible emissions, the results of all VEEs, any necessary corrective action, and the name of the observer. If any of the following processing equipment: primary and secondary crushing (Ref. E2, E3), tertiary crushing (Ref. E4.1.1, E4.2), screens (Ref. E2d, E3e), stockpiles, belt conveyors (Ref. E2a, E2b, E2c, E3a, E3b, E3c, E3d, E4a, E4b, E4c, E4h, E4i, E5a, E7a, and E4d), truck loadouts (Ref. E4h.2, E6), saw dust belt conveyors (Ref. E5h.1, E5h.2), East Ridge Flotation building, and Magnet building fabric filter (Ref. E5cBH) exhaust stack have not been operated for any period during the week it shall be noted in the log book that the unit was not operating, and an observation was not required..

(9 VAC 5-80-110 E and 9 VAC 5-80-110 K)

4. **Recordkeeping**
The permittee shall maintain records of all emission data and operating parameters necessary to demonstrate compliance with this permit. The content and format of

such records shall be arranged with the South Central Regional Office. These records shall include, but are not limited to:

a. Annual throughput of raw ore through the East Ridge stone processing facility, in tons, calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.

b. Scheduled and unscheduled maintenance and operator training to all air pollution control devices.

c. Results of all visual emissions examinations (VEE) and periodic monitoring.

These records shall be available on site for inspection by the DEQ and shall be current for the most recent five (5) years.
(9 VAC 5-80-110 and Condition 93 of May 22, 2006 permit)

5. **Reporting**
The permittee shall submit written reports in accordance with General Condition VIII.C.
(9 VAC 5-80-110 F)

B. Gieseke Plant

1. **Limitations**

a. **Emission Controls** - Particulate emissions from each of the Upper and Lower Gieseke bagging machines (Ref. G8b.1, G8b.2, G3a.1 thru G3a.3) shall be controlled by a fabric filter. The fabric filter shall be provided with adequate access for inspection and shall be in operation when the bagging machines are operating.
(9 VAC 5-80-110 and Condition 7 of May 22, 2006 permit)

b. **Emission Controls** - Particulate emissions from the Upper Gieseke air classifier (Ref. G2b) shall be controlled by a fabric filter. The fabric filter shall be provided with adequate access for inspection and shall be in operation when the ball mills are operating.
(9 VAC 5-80-110 and Condition 8 of May 22, 2006 permit)

c. **Emission Controls** - Particulate emissions from the Allis Chalmers screen (Ref. G6b), pan coolers (Ref. G6a.1, G6a.2), and 7" bucket elevator (Ref. G6) shall be controlled by enclosure.
(9 VAC 5-80-110 and Condition 9 of May 22, 2006 permit)

d. **Emission Controls** - Particulate emissions from the Upper Gieseke ball mill (Ref. G2), Upper Gieseke storage bins (Ref. G1d, G2b), and 16" bucket elevator (Ref. G2a) shall be controlled by totally enclosing the emission units with a building having four walls and a roof.
(9 VAC 5-80-110 and Condition 10 of May 22, 2006 permit)

e. **Emission Controls** - Particulate emissions from the Lower Gieseke ball mill (Ref. G7) air classifier (Ref. G7b), storage bin (Ref. G8a), 16" bucket elevator (Ref. G7a), and truck load-out (Ref. G8c) shall be controlled by totally enclosing the emission units with a building having four walls and a roof.
(9 VAC 5-80-110 and Condition 11 of May 22, 2006 permit)

f. **Emission Controls** - Particulate emissions from the Lower Gieseke 24" belt conveyor (Ref. G6g), 16" bucket elevator (Ref. G6h) and Upper Gieseke 36" belt conveyors (Ref. G1a, G1c), 24" belt conveyor (Ref. G4a), and storage bin (Ref. G1b) shall be controlled by enclosure.
(9 VAC 5-80-110 and Condition 12 of May 22, 2006 permit)

g. **Emission Controls** - Particulate emissions from the Lower Gieseke 24" belt conveyor (Ref. G6e) and surge bin (G6f) shall be controlled by enclosure.
(9 VAC 5-80-110 and Condition 13 of May 22, 2006 permit)

h. **Emission Controls** - Particulate emissions from the Gieseke coal mill (Ref. G10) and belt conveyor (G9a) shall be controlled by enclosure.
(9 VAC 5-80-110 and Condition 14 of May 22, 2006 permit)

i. **Emission Controls** - Particulate emissions from the Gieseke bagging ball mill bin (Ref. GB1) shall be controlled by totally enclosing the emission unit with a building having four walls and a roof.
(9 VAC 5-80-110 and Condition 19 of May 22, 2006 permit)

j. **Emission Controls** - Particulate emissions from the Gieseke bagging bucket elevator (Ref. GB3) shall be controlled by enclosure.
(9 VAC 5-80-110 and Condition 20 of May 22, 2006 permit)

k. **Emission Controls** - Particulate emissions from the Gieseke bagging equipment (Ref. GB4 thru GB14) shall be controlled by fabric filters. The fabric filters shall be provided with adequate access for inspection and shall be in operation when the bagging equipment is operating.
(9 VAC 5-80-110 and Condition 21 of May 22, 2006 permit)

l. **Emission Controls** - Particulate emissions from the Gieseke screening building operations (Ref. GS1 thru GS20) shall be controlled by a fabric filter. The fabric filter shall be provided with adequate access for inspection and shall be in operation when the screening operation equipment is operating.

(9 VAC 5-80-110 and Condition 22 of May 22, 2006 permit)

m. **Fugitive Emission Controls -** Fugitive emission controls shall include the following, or equivalent, as a minimum:

(1) Particulate matter emissions from kyanite and mullite processing equipment not covered by Conditions a, b, c, d, e, f, g, h, i, j, k, and l of this section, above, shall be controlled by wet suppression or equivalent (as approved by the DEQ).

(2) All material being stockpiled shall be kept adequately moist to control dust during storage and handling or covered at all times to minimize emissions.

(3) Dust from haul roads and traffic areas shall be controlled by the application of asphalt, water, suitable chemicals, or equivalent methods approved by the DEQ.

(4) Reasonable precautions shall be taken to prevent deposition of dirt on public roads and subsequent dust emissions. Dirt, product, or raw material spilled or tracked onto paved surfaces shall be promptly removed to prevent particulate matter from becoming airborne.

(9 VAC 5-80-110 and Condition 23 of May 22, 2006 permit)

n. **Throughput** - The throughput of mullite and kyanite through the Lower Gieseke truck dump hoppers (Ref. G6c, G6d) shall not exceed 30,000 tons per year, calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.
(9 VAC 5-80-110 and Condition 34 of May 22, 2006 permit)

o. **Throughput -** The throughput of kyanite through the Gieseke bagging ball mill bin (Ref. GB1) shall not exceed 70,000 tons per year, calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.
(9 VAC 5-80-110 and Condition 42 of May 22, 2006 permit)

p. **Throughput -** The throughput of kyanite through the Gieseke bagging truck dump (Ref. GB2) shall not exceed 55,000 tons per year, calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most

recently completed calendar month to the individual monthly totals for the preceding 11 months.
(9 VAC 5-80-110 and Condition 43 of May 22, 2006 permit)

q. **Throughput -** The throughput of mullite and kyanite through the Gieseke screening conveyor (Ref. GS1) shall not exceed 15,000 tons per year, calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.
(9 VAC 5-80-110 and Condition 44 of May 22, 2006 permit)

r. **Emission Limits** - Particulate emissions from the operation of the Gieseke kyanite/mullite processing facility, except kiln (Ref. G5) shall not exceed the limits specified below:

Particulate Matter	161.5 tons/yr
PM-10	62.7 tons/yr

Annual emissions are calculated as the sum of each consecutive twelve month period.

These emissions are derived from the estimated overall emission contribution from operating limits. Exceedance of the operating limits may be considered credible evidence of the exceedance of emission limits. Compliance with these emission limits may be determined as stated in Conditions III.B.1.c and n of this section, above.
(9 VAC 5-80-110 and Condition 62 of May 22, 2006 permit)

s. **Emission Limits** - Emissions from the operation of the Upper Gieseke fabric filter exhaust stacks (Ref. G2BH, G3BH, GBDC1, GBDC2, GBDC3, GBDC4), Lower Gieseke fabric filter exhaust stacks (Ref. G8B1, G8B2, GSDC1) shall not exceed the limits specified below:

Particulate Matter	0.05 g/dscm
PM-10	0.05 g/dscm

(9 VAC 5-80-110 and Condition 69 of May 22, 2006 permit)

t. **Visible Emission Limit -** Visible emissions from the Upper Gieseke mill building (total enclosure), which contains the following kyanite processing equipment: ball mill (Ref. G2), storage bins (G1d, G2b), 16" bucket elevator (Ref. G2a), and truck

load-out (Ref. G3b), shall have no visible emissions as determined by EPA Method 22 (reference 40 CFR 60, Appendix A).
(9 VAC 5-80-110 and Condition 78 of May 22, 2006 permit)

u. **Visible Emission Limit -** Visible emissions from the Lower Gieseke mill building (total enclosure), which contains the following kyanite/mullite processing equipment: ball mill (Ref. G7), bucket elevator (Ref. G7a), storage bin (G8a), and truck load-out (Ref. G8c), shall have no visible emissions as determined by EPA Method 22 (reference 40 CFR 60, Appendix A).
(9 VAC 5-80-110 and Condition 79 of May 22, 2006 permit)

v. **Visible Emission Limit -** Visible emissions from the following Gieseke mullite processing equipment (enclosure): pan coolers (Ref. G6a.1, G6a.2), screen (Ref. G6b), bucket elevator (Ref. G6), storage bin (G6f), belt conveyor (Ref. G6e), and coal mill (Ref. G10) shall not exceed 10 % opacity (reference 40 CFR 60, Appendix A).
(9 VAC 5-80-110 and Condition 80 of May 22, 2006 permit)

w. **Visible Emission Limit -** Visible emissions from the Gieseke fugitive emission sources shall not exceed 10 percent opacity as determined by EPA Method 9 (reference 40 CFR 60, Appendix A).
(9 VAC 5-80-110 and Condition 81 of May 22, 2006 permit)

x. **Visible Emission Limit -** Visible emissions from the Gieseke kyanite bagging machines fabric filter exhaust stack (Ref. G3BH), mullite bagging machines fabric filter exhaust stack (Ref. G8B1, G8B2), and Upper Gieseke air classifier (Ref. G2b) shall not exceed 7 percent opacity as determined by EPA Method 9 (reference 40 CFR 60, Appendix A).
(9 VAC 5-80-110 and Condition 82 of May 22, 2006 permit)

y. **Visible Emission Limit -** Visible emissions from the Gieseke screening and bagging fabric filter exhaust stacks (Ref. GSDC1, GBDC1, GBDC2, GBDC3, GBDC4) shall not exceed 7 percent opacity as determined by EPA Method 9 (reference 40 CFR 60, Appendix A).
(9 VAC 5-80-110 and Condition 91 of May 22, 2006 permit)

z. **NSPS Subpart Kb -** The permittee, per 40 CFR 60, Subpart Kb §60.116b (a), (b), and (d), shall keep readily accessible records showing the dimensions, and analysis showing the capacity, of the following storage vessels: G3, G1, and G2. The permittee shall report to the South Central Regional Office within 30 days if the true vapor pressure of the stored product with these tanks exceeds 27.6 kPa. These records shall be kept for the life of the storage vessel.
(9 VAC 5-80-110 and Condition 94 of May 22, 2006 permit)

2. **Monitoring**

Monitoring Devices - Each fabric filter (Ref. G2BH, G3BH, G8B1, G8B2, GBDC1, GBDC2, GBDC3, GBDC4, GSDC1) shall be equipped with a device to continuously measure the differential pressure drop across the fabric filter. Each monitoring device shall be installed, maintained, calibrated and operated in accordance with approved procedures which shall include, as a minimum, the manufacturer's written requirements or recommendations. Each monitoring device shall be provided with adequate access for inspection and shall be in operation when the fabric filter is operating.
(9 VAC 5-80-110 and Condition 25 of May 22, 2006 permit)

3. **Periodic Monitoring**

a. At least one time per calendar week an observation of the presence of visible emissions from the Upper Gieseke 36" belt conveyors (Ref. G1a, G1c), storage bin (Ref. G1b), 24" belt conveyor (Ref. G4a), pan coolers (Ref. G6a.1, G6a.2), and 7" bucket elevator (Ref. G6), Allis Chalmers screen (Ref. G6b), Gieseke coal mill (Ref. G10), coal belt conveyor (G9a), Lower Gieseke 24" belt conveyors (Ref. G6e, G6g), 16" bucket elevator (Ref. G6h), Lower Gieseke urge bin (G6f), Upper Gieseke Mill building, Lower Gieseke Mill building, Upper and Lower Gieseke bagging machine's (Ref. G8b.1 & G8b.2, G3a.1 thru G3a.3), Upper Gieseke air classifier's (Ref. G2b) fabric filters (Ref. G2BH, G3BH, G8B1, G8B2), and Gieseke bagging building and screening building fabric filters (Ref. GBDC1, GBDC2, GBDC3, GBDC4, GSDC1) exhaust stack shall be made. The presence of visible emissions shall require the permittee to:

(1) take timely corrective action such that the Upper Gieseke 36" belt conveyors (Ref. G1a, G1c), Dry Slot kyanite storage bin (Ref. G1b), 24" belt conveyor (Ref. G4a), pan coolers (Ref. G6a.1, G6a.2), and 7" bucket elevator (Ref. G6), Allis Chalmers screen (Ref. G6b), Gieseke coal mill (Ref. G10), coal belt conveyor (G9a), Lower Gieseke 24" belt conveyors (Ref. G6e, G6g), 16" bucket elevator (Ref. G6h), Lower Gieseke urge bin (G6f), Upper Gieseke Mill building, Lower Gieseke Mill building, Upper and Lower Gieseke bagging machine's (Ref. G8b.1 & G8b.2, G3a.1 thru G3a.3), Upper Gieseke air classifier's (Ref. G2b) fabric filters (Ref. G2BH, G3BH, G8B1, G8B2), and Gieseke bagging building and screening building fabric filters (Ref. GBDC1, GBDC2, GBDC3, GBDC4, GSDC1) exhaust stack with visible emissions, resumes operation with no visible emissions, or,

(2) conduct a visible emission evaluation (VEE) on the Upper Gieseke mill building, Lower Gieseke mill building, and Dry Slot kyanite storage bin (G1b) in accordance with EPA Method 9 (reference 40 CFR 60, Appendix A) for a minimum of six (6) minutes, to assure are no visible emissions. If any emissions are observed, the observation period in accordance with EPA Method 22 (reference 40 CFR 60, Appendix A) shall continue until a total of

sixty (60) minutes of observation have been completed. Timely corrective action shall be taken, if necessary, such that the Upper Gieseke mill building, Lower Gieseke mill building, and Dry Slot kyanite storage bin (G1b) resume operation with no visible emissions; or

(3) conduct a visible emission evaluation (VEE) on the kyanite bagging machines fabric filter exhaust stack (Ref. G3BH), mullite bagging machines fabric filter exhaust stack (Ref. G8B1, G8B2), Upper Gieseke air classifier (Ref. G2b), and Gieseke bagging building and screening building fabric filter (Ref. GBDC1, GBDC2, GBDC3, GBDC4, GSDC1) exhaust stack with visible emissions, in accordance with EPA Method 9 (reference 40 CFR 60, Appendix A) for a minimum of six (6) minutes, to assure are 7 percent opacity or less. If any of the observations exceed the opacity limitation of 7 percent, the observation period shall continue until a total of sixty (60) minutes of observation have been completed. Timely corrective action shall be taken, if necessary, such that the kyanite bagging machines fabric filter exhaust stack (Ref. G3BH), mullite bagging machines fabric filter exhaust stack (Ref. G8B1, G8B2), Upper Gieseke air classifier (Ref. G2b), and Gieseke bagging building and screening building fabric filter (Ref. GBDC1, GBDC2, GBDC3, GBDC4, GSDC1) exhaust stack resumes operation within the 7 percent opacity limit; or

(4) conduct a visible emission evaluation (VEE) on the pan coolers (Ref. G6a.1, G6a.2), screen (Ref. G6b), bucket elevator (Ref. G6), storage bin (G6f), belt conveyors (Ref. G6e, G9a), coal mill (Ref. G10), and Gieseke fugitive emission sources in accordance with EPA Method 9 (reference 40 CFR 60, Appendix A) for a minimum of six (6) minutes, to assure visible emissions from the are 10 percent opacity or less. If any of the observations exceed the opacity limitation of 10 percent, the observation period shall continue until a total of sixty (60) minutes of observation have been completed. Timely corrective action shall be taken, if necessary, such that the pan coolers (Ref. G6a.1, G6a.2), screen (Ref. G6b), bucket elevator (Ref. G6), storage bin (G6f), belt conveyors (Ref. G6e, G9a), coal mill (Ref. G10), and Gieseke fugitive emission sources resumes operation within the 10 percent opacity limit.

(5) If visible emissions observations conducted during twelve (12) consecutive weeks show no visible emissions for a particular stack or emission unit, the permittee may reduce the monitoring frequency to once per month for that stack or emission unit. Anytime the monthly visible emissions observations show visible emissions, or when requested by DEQ, the monitoring frequency shall be increased to once per week for that stack.

b. The permittee shall maintain a visual observation log for the Upper Gieseke 36" belt conveyors (Ref. G1a, G1c), storage bin (Ref. G1b), 24" belt conveyor (Ref.

G4a), pan coolers (Ref. G6a.1, G6a.2), and 7" bucket elevator (Ref. G6), Allis Chalmers screen (Ref. G6b), Gieseke coal mill (Ref. G10), coal belt conveyor (G9a), Lower Gieseke 24" belt conveyors (Ref. G6e, G6g), 16" bucket elevator (Ref. G6h), Lower Gieseke urge bin (G6f), Upper Gieseke Mill building, Lower Gieseke Mill building, Upper and Lower Gieseke bagging machine's (Ref. G8b.1 & G8b.2, G3a.1 thru G3a.3) and Upper Gieseke air classifier's (Ref. G2b) fabric filters (Ref. G2BH, G3BH, G8B1, G8B2) exhaust stack, and Gieseke bagging building and screening building fabric filters (Ref. GBDC1, GBDC2, GBDC3, GBDC4, GSDC1) exhaust stack to demonstrate compliance. The logs shall include the date and time of the observations, whether or not there were visible emissions, the results of all VEEs, any necessary corrective action, and the name of the observer. If any of the following processing equipment: Upper Gieseke 36" belt conveyors (Ref. G1a, G1c), storage bin (Ref. G1b), 24" belt conveyor (Ref. G4a), pan coolers (Ref. G6a.1, G6a.2), and 7" bucket elevator (Ref. G6), Allis Chalmers screen (Ref. G6b), Gieseke coal mill (Ref. G10), coal belt conveyor (G9a), Lower Gieseke 24" belt conveyors (Ref. G6e, G6g), 16" bucket elevator (Ref. G6h), Lower Gieseke urge bin (G6f), Upper Gieseke Mill building, Lower Gieseke Mill building, Upper and Lower Gieseke bagging machine's (Ref. G8b.1 & G8b.2, G3a.1 thru G3a.3) and Upper Gieseke air classifier's (Ref. G2b) fabric filters (Ref. G2BH, G3BH, G8B1, G8B2) exhaust stack, and Gieseke bagging building and screening building fabric filters (Ref. GBDC1, GBDC2, GBDC3, GBDC4, GSDC1) exhaust stack have not been operated for any period during the week it shall be noted in the log book that the unit was not operating, and an observation was not required.

(9 VAC 5-80-110 E and 9 VAC 5-80-110 K)

4. **Initial Performance Testing**

a. **Stack Test -** Initial performance tests shall be conducted for the fabric filter exhaust from each of the Gieseke fabric filter stacks (Ref. GSDC1, GBDC1, GBDC2, GBDC3, GBDC4) using reference methods as stated in 40 CFR 60.675 to determine compliance with the emission limits contained in Condition 1.s of this section, above. The tests shall be performed, and demonstrate compliance within 60 days after achieving the maximum production rate at which the facility will be operated but in no event later than 180 days after start-up of the permitted facility. Tests shall be conducted and reported and data reduced as set forth in 9 VAC 5-50-30, and the test methods and procedures contained in each applicable section or subpart listed in 9 VAC 5-50-410. The details of the tests are to be arranged with the South Central Regional Office. The permittee shall submit a test protocol at least 30 days prior to testing. One copy of the test results shall be submitted to the South Central Regional Office within **180 days of startup** and shall conform to the test report format enclosed with this permit. One copy of the test result shall be submitted to the EPA Region III Office within **180 days of startup** to the address in Condition 6 below.

(9 VAC 5-80-110 and Condition 101 of May 22, 2006 permit)

b. **Visible Emissions Evaluation -** Concurrently with the initial performance tests, Visible Emission Evaluations (VEE) in accordance with 40 CFR Part 60, Appendix A, Method 9, as modified in 40 CFR 60.675, shall also be conducted by the permittee on the following equipment: Gieseke fabric filter stacks (Ref. GSDC1, GBDC4). Each test shall consist of 30 sets of 24 consecutive observations (at 15 second intervals) to yield a six minute average. The details of the tests are to be arranged with the South Central Regional Office. The evaluation shall be performed, and reported within 60 days after achieving the maximum production rate at which the facility will be operated but in no event later than 180 days after start-up of the permitted facility. Should conditions prevent concurrent opacity observations, the South Central Regional Office shall be notified in writing, within seven days, and visible emissions testing shall be rescheduled within 30 days. Rescheduled testing shall be conducted under the same conditions (as possible) as the initial performance tests. One copy of the test result shall be submitted to the South Central Regional Office within **180 days of startup** and shall conform to the test report format enclosed with this permit. One copy of the test result shall be submitted to the EPA Region III Office within **180 days of startup** to the address in Condition 6 below.
(9 VAC 5-80-110 and Condition 102 of May 22, 2006 permit)

c. **Visible Emissions Evaluation -** Visible Emission Evaluations (VEE) in accordance with 40 CFR Part 60, Appendix A, Method 9, as modified in 40 CFR 60.675, shall also be conducted by the permittee on the following equipment: Gieseke fabric filter stacks (Ref. GBDC1, GBDC2, GBDC3). Each test shall consist of 10 sets of 24 consecutive observations (at 15 second intervals) to yield a six minute average. The details of the tests are to be arranged with the South Central Regional Office. The evaluation shall be performed, and reported within 60 days after achieving the maximum production rate at which the facility will be operated but in no event later than 180 days after start-up of the permitted facility. Should conditions prevent concurrent opacity observations, the South Central Regional Office shall be notified in writing, within seven days, and visible emissions testing shall be rescheduled within 30 days. Rescheduled testing shall be conducted under the same conditions (as possible) as the initial performance tests. One copy of the test result shall be submitted to the South Central Regional Office within **180 days of startup** and shall conform to the test report format enclosed with this permit. One copy of the test result shall be submitted to the EPA Region III Office within **180 days of startup** to the address in Condition 6 below.
(9 VAC 5-80-110 and Condition 103 of May 22, 2006 permit)

d. **Visible Emissions Evaluation -** Visible Emission Evaluations (VEE) in accordance with 40 CFR Part 60, Appendix A, Method 22, as modified in 40 CFR 60.675, shall be conducted by the permittee on the Gieseke Bagging Building and

Gieseke Screening Building. The details of the tests are to be arranged with the South Central Regional Office. The evaluation shall be performed within 60 days after achieving the maximum production rate at which the facility will be operated but in no event later than 180 days after start-up of the permitted facility. One copy of the test result shall be submitted to the South Central Regional Office within **180 days of startup** and shall conform to the test report format enclosed with this permit. One copy of the test result shall be submitted to the EPA Region III Office within **180 days of startup** to the address in Condition 6 below. (9 VAC 5-80-110 and Condition 104 of May 22, 2006 permit)

5. **Recordkeeping**
The permittee shall maintain records of all emission data and operating parameters necessary to demonstrate compliance with this permit. The content and format of such records shall be arranged with the South Central Regional Office. These records shall include, but are not limited to:

a. Annual throughput of mullite through the Lower Gieseke truck dump (Ref. G6c), in tons, calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.

b. Annual throughput of kyanite through the Lower Gieseke truck dump (Ref. G6d), in tons, calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.

c. Annual throughput of mullite/kyanite through the Gieseke Screening building, in tons, calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.

d. Annual throughput of kyanite through the Gieseke Bagging building, in tons, calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.

e. Scheduled and unscheduled maintenance and operator training to all air pollution control devices.

f. Results of all stack tests, visual emissions evaluations (VEE), and performance evaluations.

g. Copies of all notification of the actual start-up date of the Gieseke kyanite/mullite processing equipment.

h. Dimensions of the storage tanks required by Condition 1.z of this section, above.

These records shall be available on site for inspection by the DEQ and shall be current for the most recent five (5) years.
(9 VAC 5-80-110 and Condition 93 of May 22, 2006 permit)

6. **Initial Notifications**
The permittee shall furnish written notification to the South Central Regional Office:

a. The actual start-up date of the Gieseke mullite processing equipment, each within 15 days after such date.

b. The anticipated date of performance tests of the Gieseke mullite processing equipment, each postmarked at least 30 days prior to such date.

c. The actual date on which construction of the Gieseke bagging equipment (Ref. GB4 thru GB14) and the Gieseke screening building operations (Ref. GS1 thru GS20) commenced within 30 days after such date.

d. The actual start-up date of the proposed Gieseke bagging equipment (Ref. GB4 thru GB14) and the Gieseke screening building operations (Ref. GS1 thru GS20) within 15 days after such date.

e. The anticipated date of performance tests of the Gieseke bagging fabric filter (GBDC1, GBDC2, GBDC3, GBDC4) and the Gieseke screening building fabric filter (GSDC1), each postmarked at least 30 days prior to such date.

Copies of the written notification referenced in items c through e above are to be sent to:

Associate Director
Office of Air Enforcement (3AP10)
U.S. Environmental Protection Agency
Region III
1650 Arch Street
Philadelphia, PA 19103-2029

(9 VAC 5-80-110 and Condition 106 of May 22, 2006 permit)

7. **Reporting**

The permittee shall submit written reports in accordance with General Condition VIII.C.
(9 VAC 5-80-110 F)

C. Willis Mountain Plant

1. Limitations

a. **Emission Controls** - Particulate emissions from the Willis Mountain ball mill (Ref. W3d.1, W3d.2), 24" belt conveyors (Ref. W3c.1, W3c.2, W4a.2, W4e.1, W3d.3, W3d.4), bucket elevators (Ref. W6a, W4a.3, W4a.4, W4h), 18" belt conveyors (Ref. W4f), storage bins (Ref. W4e.2 thruW4e.6, W4j, W4i, W4L, W5a.1, W5a.2, W5a.3, W5c, W6b, W6b2), bagging machines (Ref. W5.1 thru W5.3, W7), magnetic separation (Ref. W4a), and truck load-outs (Ref. W5b, W7b, W7b2) shall be controlled by totally enclosing the emission units with a building having four walls and a roof.
(9 VAC 5-80-110 and Condition 17of May 22, 2006 permit)

b. **Emission Controls** - Particulate emissions from the Willis Mountain bucket elevator (Ref. W8a), 18" belt conveyors (Ref. W3j, W4b, W4d), and storage bin (Ref. W4c) shall be controlled by enclosure.
(9 VAC 5-80-110 and Condition 18 of May 22, 2006 permit)

c. **Fugitive Emission Controls** - Fugitive emission controls shall include the following, or equivalent, as a minimum:

(1) Particulate matter emissions from kyanite and mullite processing equipment not covered by Conditions a and b of this section, above, shall be controlled by wet suppression or equivalent (as approved by the DEQ).

(2) All material being stockpiled shall be kept adequately moist to control dust during storage and handling or covered at all times to minimize emissions.

(3) Dust from haul roads and traffic areas shall be controlled by the application of asphalt, water, suitable chemicals, or equivalent methods approved by the DEQ.

(4) Reasonable precautions shall be taken to prevent deposition of dirt on public roads and subsequent dust emissions. Dirt, product, or raw material spilled or tracked onto paved surfaces shall be promptly removed to prevent particulate matter from becoming airborne.

(9 VAC 5-80-110 and Condition 23 of May 22, 2006 permit)

d. **Throughput -** The throughput of raw ore through the Willis Mountain stone processing facility shall not exceed 550,000 tons per year, calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.
(9 VAC 5-80-110 and Condition 31 of May 22, 2006 permit)

e. **Throughput -** The throughput of kyanite through the Willis Mountain truck loadout (Ref. W4k) shall not exceed 18,300 tons per year, calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.
(9 VAC 5-80-110 and Condition 37 of May 22, 2006 permit)

f. **Throughput -** The throughput of kyanite through the Willis Mountain truck loadout (Ref. W4g1, W4g2) shall not exceed 55,000 tons per year, calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.
(9 VAC 5-80-110 and Condition 38 of May 22, 2006 permit)

g. **Throughput -** The throughput of material through Willis Mountain Magnet building and Willis Mountain Bagging building shall not exceed 55,000 tons per year, calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.
(9 VAC 5-80-110 and Condition 39 of May 22, 2006 permit)

h. **Throughput -** The throughput of kyanite through the Willis Mountain truck dump (Ref. W8) shall not exceed 15,000 tons per year, calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.
(9 VAC 5-80-110 and Condition 40 of May 22, 2006 permit)

i. **Emission Limits** - Particulate emissions from the operation of the Willis Mountain kyanite processing facility, except dryer/cooler (Ref. W4) and sand dryer (Ref. W6) shall not exceed the limits specified below:

Particulate Matter	*6.5 tons/yr*

PM-10	*1.6 tons/yr*

Annual emissions are calculated as the sum of each consecutive twelve month period.

These emissions are derived from the estimated overall emission contribution from operating limits. Exceedance of the operating limits may be considered credible evidence of the exceedance of emission limits. Compliance with these emission limits may be determined as stated in Conditions d, e, g, and h of this section, above.
(9 VAC 5-80-110 and Condition 63 of May 22, 2006 permit)

j. **Emission Limits -** Emissions from the operation of the Willis Mountain fabric filter exhaust stack (Ref. DC1) shall not exceed the limits specified below:

Particulate Matter	0.05 g/dscm
PM-10	0.05 g/dscm

(9 VAC 5-80-110 and Condition 70 of May 22, 2006 permit)

k. **Visible Emission Limit -** Visible emissions from the Willis Mountain primary and secondary crushing (Ref. W2, W3) and belt conveyors (Ref. W2a, W3a, W3g, W3j, W8a, W3k, W3l.1, W3l.2, W4b), bucket elevators (Ref. W3h, W8a), storage bin (Ref. W3b, W3f, W4c), kyanite truck dump bin (Ref. W8), and reject truck loadouts (Ref. W4c.2, W4g1, W4g2) shall not exceed 20 percent opacity except during one six-minute period in any one hour in which visible emissions shall not exceed 60 percent opacity as determined by EPA Method 9 (reference 40 CFR 60, Appendix A).
(9 VAC 5-80-110 and Condition 83 of May 22, 2006 permit)

l. **Visible Emission Limit -** Visible emissions from the Willis Mountain Flotation building which includes the following emission units: belt conveyors (Ref. W3c.1, W3c.2), associated wet flotation, separation, and concentration equipment, and storage bin (Ref. W3d) shall not exceed 20 percent opacity except during one six-minute period in any one hour in which visible emissions shall not exceed 60 percent opacity as determined by EPA Method 9 (reference 40 CFR 60, Appendix A).
(9 VAC 5-80-110 and Condition 84 of May 22, 2006 permit)

m. **Visible Emission Limit -** Visible emissions from the Willis Mountain Magnet building which includes the following emission units: 24" belt conveyor (Ref. W4a.1), 24" bucket elevators (Ref. W4a.2, W4a.3), and magnetic separation (Ref. W4a) shall not exceed 20 percent opacity except during one six-minute period in

any one hour in which visible emissions shall not exceed 60 percent opacity as determined by EPA Method 9 (reference 40 CFR 60, Appendix A).
(9 VAC 5-80-110 and Condition 85 of May 22, 2006 permit)

n. **Visible Emission Limit -** Visible emissions from the Willis Mountain kyanite bagging building (enclosure) which includes the following emission units: belt conveyors (Ref. W4e.1, W4f) and storage bins (Ref. W4e.2 thru W4e.6, W5a.1, W5a.2), kyanite bagging (Ref. W5.1 thru W5.3), and bulk kyanite load out (Ref. W5b) shall not exceed 20 percent opacity except during one six-minute period in any one hour in which visible emissions shall not exceed 60 percent opacity as determined by EPA Method 9 (reference 40 CFR 60, Appendix A).
(9 VAC 5-80-110 and Condition 86 of May 22, 2006 permit)

o. **Visible Emission Limit -** Visible emissions from the Willis Mountain sand bagging building (enclosure) which includes the following emission units: bucket elevator (Ref. W6a) and storage bin (Ref. W6b), sand bagging (Ref. W7), and truck load out (Ref. W7b) shall not exceed 20 percent opacity except during one six-minute period in any one hour in which visible emissions shall not exceed 60 percent opacity as determined by EPA Method 9 (reference 40 CFR 60, Appendix A).
(9 VAC 5-80-110 and Condition 87 of May 22, 2006 permit)

p. **Visible Emission Limit -** Visible emissions from the Willis Mountain kyanite bagging building fabric filter exhaust stack (Ref. DC1) shall not exceed 7 percent opacity as determined by EPA Method 9 (reference 40 CFR 60, Appendix A).
(9 VAC 5-80-110 and Condition 88 of May 22, 2006 permit)

2. **Periodic Monitoring**

a. At least one time per calendar week an observation of the presence of visible emissions from the Willis Mountain primary and secondary crushing (Ref. W2, W3) and belt conveyors (Ref. W2a, W3a, W3g, W3j, W8a, W3k, W3l.1, W3l.2, W4b), bucket elevators (Ref. W3h, W8a), storage bin (Ref. W3b, W3f, W4c), kyanite truck dump bin (Ref. W8), reject truck loadouts (Ref. W4c.2, W4g1, W4g2), Flotation building, Magnet building, Kyanite bagging building, Sand bagging building, and kyanite bagging building fabric filter exhaust stack (Ref. DC1) shall be made. The presence of visible emissions shall require the permittee to:

(1) take timely corrective action such that the Willis Mountain primary and secondary crushing (Ref. W2, W3) and belt conveyors (Ref. W2a, W3a, W3g, W3j, W8a, W3k, W3l.1, W3l.2, W4b), bucket elevators (Ref. W3h, W8a), storage bin (Ref. W3b, W3f , W4c), kyanite truck dump bin (Ref. W8), reject truck loadouts (Ref. W4c.2, W4g1, W4g2), Flotation building, Magnet building, Kyanite bagging building, Sand bagging building, and kyanite

bagging building fabric filter exhaust stack (Ref. DC1), resumes operation with no visible emissions, or,

(2) conduct a visible emission evaluation (VEE) on the Willis Mountain primary and secondary crushing (Ref. W2, W3) and belt conveyors (Ref. W2a, W3a, W3g, W3j, W8a, W3k, W3l.1, W3l.2, W4b), bucket elevators (Ref. W3h, W8a), storage bin (Ref. W3b, W3f, W4c), kyanite truck dump bin (Ref. W8), reject truck loadouts (Ref. W4c.2, W4g1, W4g2), Flotation building, Magnet building, Kyanite bagging building, and Sand bagging building, in accordance with EPA Method 9 (reference 40 CFR 60, Appendix A) for a minimum of six (6) minutes, to assure visible emissions from the Willis Mountain primary and secondary crushing (Ref. W2, W3) and belt conveyors (Ref. W2a, W3a, W3g, W3j, W8a, W3k, W3l.1, W3l.2, W4b), bucket elevators (Ref. W3h, W8a), storage bin (Ref. W3b, W3f , W4c), kyanite truck dump bin (Ref. W8), reject truck loadouts (Ref. W4c.2, W4g1, W4g2), Flotation building, Magnet building, Kyanite bagging building, and Sand bagging building are 20 percent opacity or less. If any of the observations exceed the opacity limitation of 20 percent, the observation period shall continue until a total of sixty (60) minutes of observation have been completed. Timely corrective action shall be taken, if necessary, such that the Willis Mountain primary and secondary crushing (Ref. W2, W3) and belt conveyors (Ref. W2a, W3a, W3g, W3j, W8a, W3k, W3l.1, W3l.2, W4b), bucket elevators (Ref. W3h, W8a), storage bin (Ref. W3b, W3f, W4c), kyanite truck dump bin (Ref. W8), reject truck loadouts (Ref. W4c.2, W4g1, W4g2), Flotation building, Magnet building, Kyanite bagging building, and Sand bagging building resumes operation within the 20 percent opacity limit, or,

(3) conduct a visible emission evaluation (VEE) on the Willis Mountain kyanite bagging building fabric filter exhaust stack (Ref. DC1, in accordance with EPA Method 9 (reference 40 CFR 60, Appendix A) for a minimum of six (6) minutes, to assure visible emissions are 7 percent opacity or less. If any of the observations exceed the opacity limitation of 7 percent, the observation period shall continue until a total of sixty (60) minutes of observation have been completed. Timely corrective action shall be taken, if necessary, such that the Willis Mountain kyanite bagging building fabric filter exhaust stack (Ref. DC1) resumes operation within the 7 percent opacity limit.

(4) If visible emissions observations conducted during twelve (12) consecutive weeks show no visible emissions for a particular stack or emission unit, the permittee may reduce the monitoring frequency to once per month for that stack or emission unit. Anytime the monthly visible emissions observations show visible emissions, or when requested by DEQ, the monitoring frequency shall be increased to once per week for that stack.

b. The permittee shall maintain a visual observation log for the Willis Mountain primary and secondary crushing (Ref. W2, W3) and belt conveyors (Ref. W2a, W3a, W3g, W3j, W8a, W3k, W3l.1, W3l.2, W4b), bucket elevators (Ref. W3h, W8a), storage bin (Ref. W3b, W3f, W4c), kyanite truck dump bin (Ref. W8), reject truck loadouts (Ref. W4c.2, W4g1, W4g2), Flotation building, Magnet building, Kyanite bagging building, and Sand bagging building to demonstrate compliance. The logs shall include the date and time of the observations, whether or not there were visible emissions, the results of all VEEs, any necessary corrective action, and the name of the observer. If any of the following processing equipment: Willis Mountain primary and secondary crushing (Ref. W2, W3) and belt conveyors (Ref. W2a, W3a, W3g, W3j, W8a, W3k, W3l.1, W3l.2, W4b), bucket elevators (Ref. W3h, W8a), storage bin (Ref. W3b, W3f, W4c), kyanite truck dump bin (Ref. W8), reject truck loadouts (Ref. W4c.2, W4g1, W4g2), Flotation building, Magnet building, Kyanite bagging building, and Sand bagging building, and kyanite bagging building fabric filter exhaust stack (Ref. DC1) have not been operated for any period during the week it shall be noted in the log book that the unit was not operating, and an observation was not required.

(9 VAC 5-80-110 E and 9 VAC 5-80-110 K)

3. Initial Performance Testing

a. **Stack Test -** Initial performance tests shall be conducted for the fabric filter exhaust from the Willis Mountain fabric filter stack (Ref. DC1) using reference methods as stated in 40 CFR 60.675 to determine compliance with the emission limits contained in Condition 1.p of this section, above. The tests shall be performed, and demonstrate compliance within 60 days after achieving the maximum production rate at which the facility will be operated but in no event later than 180 days after start-up of the permitted facility. Tests shall be conducted and reported and data reduced as set forth in 9 VAC 5-50-30, and the test methods and procedures contained in each applicable section or subpart listed in 9 VAC 5-50-410. The details of the tests are to be arranged with the South Central Regional Office. The permittee shall submit a test protocol at least 30 days prior to testing. One copy of the test results shall be submitted to the South Central Regional Office within **45 days after test completion** and shall conform to the test report format enclosed with this permit. One copy of the test result shall be submitted to the EPA Region III Office within **45 days after test completion** to the address in Condition 5 below.
(9 VAC 5-80-110 and Condition 98 of May 22, 2006 permit)

b. **Visible Emissions Evaluation -** Concurrently with the initial performance tests, Visible Emission Evaluations (VEE) in accordance with 40 CFR Part 60, Appendix A, Method 9, as modified in 40 CFR 60.675, shall also be conducted by the permittee on the following equipment: Willis Mountain fabric filter exhaust

stack (Ref. DC1). Each test shall consist of 30 sets of 24 consecutive observations (at 15 second intervals) to yield a six minute average. The details of the tests are to be arranged with the South Central Regional Office. The evaluation shall be performed, and reported within 60 days after achieving the maximum production rate at which the facility will be operated but in no event later than 180 days after start-up of the permitted facility. Should conditions prevent concurrent opacity observations, the South Central Regional Office shall be notified in writing, within seven days, and visible emissions testing shall be rescheduled within 30 days. Rescheduled testing shall be conducted under the same conditions (as possible) as the initial performance tests. One copy of the test result shall be submitted to the South Central Regional Office within **45 days after test completion** and shall conform to the test report format enclosed with this permit. One copy of the test result shall be submitted to the EPA Region III Office within **45 days after test completion** to the address in Condition 5 below. (9 VAC 5-80-110 and Condition 99 of May 22, 2006 permit)

c. **Visible Emissions Evaluation -** Visible Emission Evaluations (VEE) in accordance with 40 CFR Part 60, Appendix A, Method 22,as modified in 40 CFR 60.675, shall be conducted by the permittee on the Willis Mountain Kyanite Bagging Building and Sand Bagging Building. The details of the tests are to be arranged with the South Central Regional Office. The evaluation shall be performed within 60 days after achieving the maximum production rate at which the facility will be operated but in no event later than 180 days after start-up of the permitted facility. One copy of the test result shall be submitted to the South Central Regional Office within **45 days after test completion** and shall conform to the test report format enclosed with this permit. One copy of the test result shall be submitted to the EPA Region III Office within **45 days after test completion** to the address in Condition 5 below.
(9 VAC 5-80-110 and Condition 100 of May 22, 2006 permit)

4. **Recordkeeping**
The permittee shall maintain records of all emission data and operating parameters necessary to demonstrate compliance with this permit. The content and format of such records shall be arranged with the South Central Regional Office. These records shall include, but are not limited to:

a. Annual throughput of raw ore through the Willis Mountain stone processing facility, in tons, calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.

b. Annual throughput of dry kyanite from East Ridge through Willis Mountain truck dump (Ref. W8), in tons, calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be

demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.

c. Annual throughput of kyanite through the Willis Mountain Magnet and Bagging buildings, in tons, calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.

d. Annual throughput of kyanite through the Willis Mountain truck loadout (Ref. W4g1, W4g2, W4k), in tons, calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.

e. Scheduled and unscheduled maintenance and operator training to all air pollution control devices.

f. Results of all visual emissions evaluations (VEE) and periodic monitoring.

These records shall be available on site for inspection by the DEQ and shall be current for the most recent five (5) years.
(9 VAC 5-80-110 and Condition 93 of May 22, 2006 permit)

5. Initial Notifications
The permittee shall furnish written notification to the South Central Regional Office:

a. The actual date on which construction of the proposed equipment (Ref. W4g1, W4g2, W4h, W4i, W4j, W4k, W4L, W5a.3, W5c, W6b2, W7b2) commenced within 30 days after such date.

b. The actual start-up date of proposed equipment (Ref. W4h, W4i, W4j, W4L, W5a.3, W5c, W6b2, W7b2), each within 15 days after such date.

c. The anticipated date of performance tests of the Willis Mountain fabric filter (Ref. DC1), the Willis Mountain Kyanite Bagging Building and the Willis Mountain Sand Bagging building, each postmarked at least 30 days prior to such date.

Copies of the written notification referenced in items c through e above are to be sent to:

Associate Director
Office of Air Enforcement (3AP10)
U.S. Environmental Protection Agency
Region III

1650 Arch Street
Philadelphia, PA 19103-2029

(9 VAC 5-80-110 and Condition 106 of May 22, 2006 permit)

6. **Reporting**
The permittee shall submit written reports in accordance with General Condition VIII.C.
(9 VAC 5-80-110 F)

V. Facility Wide Conditions

A. Limitations

1. **Plantwide Emission Limits** - Total emissions from the kyanite processing facility shall not exceed the limits specified below:

Particulate Matter	233.3 tons/yr
PM-10	112.7 tons/yr
Sulfur Dioxide	165.7 tons/yr
Nitrogen Oxides (as NO2)	166.4 tons/yr
Carbon Monoxide	240.4 tons/yr
Volatile Organic Compounds	8.9 tons/yr
Hydrogen Fluoride	8.1 tons/yr

Annual emissions are calculated as the sum of each consecutive twelve month period.

These emissions are derived from the estimated overall emission contribution from operating limits. Exceedance of the operating limits shall be considered credible evidence of the exceedance of emission limits. Compliance with these emission limits may be determined as stated in Condition numbers III.A.1.g, III.B.1.f, III.C.1.g, III.D.1.e, III.E.1.a, IV.A.1.e, IV.B.1.o, IV.C.1.i, and B of this section, below.
(9 VAC 5-80-110 and Condition 60 of May 22, 2006 permit)

2. **Fuel** - The distillate oil, residual oil, recycled oil, and wood shall meet the specifications below:

COAL:
Maximum sulfur content per shipment: 2.3%

DISTILLATE OIL which meets the ASTM specification for numbers 1 or 2 fuel oil:
Maximum sulfur content per shipment: 0.2%

RESIDUAL OIL which meets the ASTM specifications for numbers 4, 5, or 6 fuel oil:
Maximum sulfur content per shipment: 2.5%

RECYCLED OIL which meets the ASTM specifications for grade RFO5L fuel oil:

Maximum sulfur content per shipment (by weight):	0.5%
Maximum ash content (by weight):	0.8%
Maximum total halogen content (by weight):	1000 ppm
Maximum PCB content (by weight):	2 ppm
Maximum lead content (by weight):	100 ppm
Maximum arsenic content (by weight):	5 ppm
Maximum cadmium content (by weight):	2 ppm
Maximum chromium content (by weight):	10 ppm
Flash point (minimum):	140 ° F

Recycled oil does not include any used oil generated on-site.

WOOD/BARK excluding any wood which contains chemical treatments or has affixed thereto paint and/or finishing materials or paper or plastic laminates:

(9 VAC 5-80-110 and Condition 53 of May 22, 2006 permit)

3. **Fuel Certification** - The permittee shall obtain a certification from the fuel supplier with each shipment of coal. Each fuel supplier certification shall include the following:

   a. The name of the fuel supplier;

   b. The date on which the coal was received;

   c. The volume of coal delivered in the shipment;

   d. The sulfur content of the coal.

   (9 VAC 5-80-110 and Condition 54 of May 22, 2006 permit)

4. **Fuel Certification** - The permittee shall obtain a certification from the fuel supplier with each shipment of residual oil. Each fuel supplier certification shall include the following:

a. The name of the fuel supplier;

b. The date on which the residual oil was received;

c. The volume of residual oil delivered in the shipment;

d. A statement that the residual oil complies with the American Society for Testing and Materials specifications for numbers 4, 5, or 6 fuel oil,

e. The sulfur content of the residual oil.

(9 VAC 5-80-110 and Condition 55 of May 22, 2006 permit)

5. **Fuel Certification** - The permittee shall obtain a certification from the fuel supplier with each shipment of distillate oil. Each fuel supplier certification shall include the following:

a. The name of the fuel supplier;

b. The date on which the distillate oil was received;

c. The volume of distillate oil delivered in the shipment;

d. A statement that the distillate oil complies with the American Society for Testing and Materials specifications for numbers 1 or 2 fuel oil,

e. A statement from the supplier that the sulfur content of the distillate oil does not exceed 0.2% (by weight).

(9 VAC 5-80-110 and Condition 56 of May 22, 2006 permit)

6. Fuel Certification - The permittee shall obtain a certification from the fuel supplier with each shipment of recycled oil. Each fuel supplier certification shall include the following:

a. The name of the fuel supplier;

b. The date on which the recycled oil was received;

c. The volume of recycled oil delivered in the shipment;

d. The content of arsenic, cadmium, chromium, lead, PCBs, and total halogens in recycled oil in ppm, by weight;

e. A statement from the supplier that the sulfur content of the recycled oil does not exceed 0.5% (by weight).

f. The flash point of the recycled oil;

g. Documentation of the used oil analysis indicating the location of the used oil when the sample was drawn,

h. The test methods used to determine the contaminant level in the recycled oil.

(9 VAC 5-80-110 and Condition 57 of May 22, 2006 permit 0)

7. **Kyanite Sampling** - The permittee shall develop and conduct a sampling program of the dryer/kiln kyanite/mullite feed from each kiln's or dryer/ cooler's daily production. The collected sample shall be representative of the contents of each day's production from each dryer/cooler or kiln. The daily samples from each dryer/cooler or kiln shall be designated with a reference identification number and the permittee shall analyze the combined composite samples at least one time per month for total sulfur and fluoride content.
(9 VAC 5-80-110 and Condition 29 of May 22, 2006 permit)

8. **Testing/Monitoring Ports** - The permitted facility shall be constructed so as to allow for emissions testing upon reasonable notice at any time, using appropriate methods. Test ports shall be provided when requested at the appropriate locations.
(9 VAC 5-80-110 and Condition 105 of May 22, 2006 permit)

9. **Emission Limits** - Hazardous air pollutant (HAP) emissions, as defined by §112(b) of the Clean Air Act, from the facility shall be less than 10 tons per year of any individual HAP and less than 25 tons per year of any combination of HAPs, calculated monthly as the sum of each consecutive 12-month period.
(9 VAC 5-80-110 and Condition 71 of May 22, 2006 permit)

10. **Requirements by Reference -** Except where this permit is more restrictive than the applicable requirement, the NSPS Subpart OOO equipment as described in Condition II shall be operated in compliance with the requirements of 40 CFR 60, Subpart OOO.
(9 VAC 5-80-110 and Condition 58 of May 22, 2006 permit)

11. **Maintenance/Operating Procedures** - The permittee shall take the following measures in order to minimize the duration and frequency of excess emissions, with respect to air pollution control equipment and process equipment which affect such emissions:

a. Develop a maintenance schedule and maintain records of all scheduled and non-scheduled maintenance to air pollution control devices.

b. Maintain an inventory of spare parts for air pollution control devices.

c. Have available written operating procedures for equipment. These procedures shall be based on the manufacturer's recommendations, at a minimum.

d. Train operators in the proper operation of all such equipment and familiarize the operators with the written operating procedures. The permittee shall maintain records of the training provided including the names of trainees, the date of training and the nature of the training.

Records of maintenance and training shall be maintained on site for a period of five years and shall be made available to DEQ personnel upon request.
(9 VAC 5-80-110 and Condition 110 of May 22, 2006 permit)

12. **Visible Emission Limit -** Unless otherwise specified in this permit, for an existing emission unit at the facility, visible emissions shall not exceed 20 percent opacity, except during one six-minute period in any one hour in which visible emissions shall not exceed 60 percent opacity as determined by EPA Method 9 (reference 40 CFR 60, Appendix A).
(9 VAC 5-40-80 and 9 VAC 5-80-110)

13. **Visible Emission Limit -** Unless otherwise specified in this permit, for a new emission unit at the facility, visible emissions shall not exceed 20 percent opacity, except during one six-minute period in any one hour in which visible emissions shall not exceed 30 percent opacity as determined by EPA Method 9 (reference 40 CFR 60, Appendix A). This condition applies at all times except during startup, shutdown, and malfunction.
(9 VAC 5-50-80 and 9 VAC 5-80-110)

14. **Violation of Ambient Air Quality Standard** - The permittee shall, upon request of the DEQ, reduce the level of operation or shut down a facility, as necessary to avoid violating any primary ambient air quality standard and shall not return to normal operation until such time as the ambient air quality standard will not be violated.
(9 VAC 5-80-110 and Condition 109 of May 22, 2006 permit)

B. Recordkeeping

The permittee shall maintain records of all emission data and operating parameters necessary to demonstrate compliance with this permit. The content and format of such records shall be arranged with the South Central Regional Office. These records shall include, but are not limited to:

1. Monthly and annual emissions calculations for SO_2 from the East Ridge dryer/cooler (Ref. E5), Gieseke kiln (Ref. G5), Willis Mountain dryer/cooler (Ref. W4), and Willis Mountain sand dryer, and IC-powered dredge using the results of the samples

collected per Condition A.6 of this section, above, and calculation methods approved by the South Central Regional Office to verify compliance with the ton/yr emissions limitations in Condition A.1 of this section, above. Annual emissions are to be calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.

2. Monthly and annual emissions calculations for CO from the East Ridge dryer/cooler (Ref. E5), Gieseke kiln (Ref. G5), Willis Mountain dryer/cooler (Ref. W4), Willis Mountain sand dryer, and IC-powered dredge using calculation methods approved by the South Central Regional Office to verify compliance with the ton/yr emissions limitations in Condition A.1 of this section, above. Annual emissions are to be calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.

3. Monthly and annual hydrogen fluoride and other HAP emissions from the East Ridge dryer/cooler (Ref. E5), Gieseke kiln (Ref. G5), and Willis Mountain dryer/cooler (Ref. W4) (in tons) using the results of the samples collected per Condition A.6 of this section, above, and other data sufficient to show compliance with Condition A.1 of this section, above. The calculation method shall be approved by the South Central Regional Office. Annual emissions are to be calculated monthly as the sum of each consecutive 12-month period. Compliance for the consecutive 12-month period shall be demonstrated monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding 11 months.

4. Scheduled and unscheduled maintenance and operator training to all air pollution control devices.

5. All fuel supplier certifications.

These records shall be available on site for inspection by the DEQ and shall be current for the most recent five (5) years.
(9 VAC 5-80-110 and Condition 93 of May 22, 2006 permit)

C. Reporting

The permittee shall submit written reports in accordance with General Condition VIII.C.
(9 VAC 5-80-110 F)

VI. Insignificant Emission Units

The following emission units at the facility are identified in the application as insignificant emission units under 9 VAC 5-80-720:

Emission Unit No.	Emission Unit Description	Citation 9 VAC 5-80-	Pollutant(s) Emitted (9 VAC 5-80-720 B)	Rated Capacity (9 VAC 5-80-720 C)
East Ridge Plant				
E4g	12 - floatation cells and related wet processing equipment	720(B)(1)	PM, PM-10	NA
ER4	20,000-gallon distillate/residual oil underground storage tank (UST)	720(B)(2)	VOC	NA
ER18	1 - 15,000-gallon tall oil storage tank above ground storage tank (AST)	720(B)(2)	VOC	NA
ER5	10,000-gallon distillate oil UST	720(B)(2)	VOC	NA
ER16	1 - 2,000-gallon used oil AST	720(B)(2)	VOC	NA
ER9, ER10, ER11	2,000-gallon or less motor/used oil ASTs	720(B)(2)	VOC	NA
ER12	1 - 1,000-gallon or less motor oil AST	720(B)(2)	VOC	NA
ER2, ER3, ER13	3 - 550-gallon distillate oil ASTs	720(C)(3)	VOC	< 1,000 gallons
ER6	10,000-gallon distillate oil USTs	720(B)(2)	VOC	NA
ER1	1 - 550-gallon gasoline UST	720(B)(2)	VOC	NA
Gieseke Plant				
G5**	550-gallon distillate oil AST	720(B)(2)	VOC	NA
G3	10,000-gallon distillate oil AST	720(B)(2)	VOC	< 5 tons/yr
Willis Mountain Plant				
W3e	18 - flotation cells and related wet processing equipment rated at 150 tons/hr	720(B)(1)	PM, PM-10	NA
WM6	20,000-gallon residual oil UST	720(B)(2)	VOC	NA
WM9	8,000-gallon tall oil UST	720(B)(2)	VOC	NA
WM5	7,800-gallon residual oil UST	720(B)(2)	VOC	NA
WM1	4,000-gallon distillate oil AST	720(B)(2)	VOC	NA
WM10, WM11, WM12	2,000-gallon lubricating oil ASTs	720(B)(2)	VOC	NA
WM15	550-gallon lubricating oil	720(C)(3)	VOC	< 1,000 gallons
WM4, WM13, WM14	550-gallon lubricating/used oil ASTs	720(C)(3)	VOC	< 1,000 gallons
WM3	550-gallon distillate oil AST	720(B)(2)	VOC	NA
WM2	550-gallon gasoline UST	720(B)(2)	VOC	NA
E7	Winslow Binabatch concrete plant rated at 9 yd^3/hr	720(B)(1)	PM-10	NA
None	Three diesel-powered light towers rated at 20HP each	720(C)(1)(a)	SO_2, NOx, CO	<259,000 Btu/hr, each

These emission units are presumed to be in compliance with all requirements of the federal Clean Air Act as may apply. Based on this presumption, no monitoring, recordkeeping, or reporting shall be required for these emission units in accordance with 9 VAC 5-80-110.

VII. Permit Shield & Inapplicable Requirements

Compliance with the provisions of this permit shall be deemed compliance with all applicable requirements in effect as of the permit issuance date as identified in this permit. This permit shield covers only those applicable requirements covered by terms and conditions in this permit and the following requirements which have been specifically identified as being not applicable to this permitted facility:

Citation	Title of Citation	Description of Inapplicability
NSPS Subpart UUU	Standards of Performance for Calciners and Dryers in the Mineral Industries	East Ridge dryer (Ref. E5), Willis Mountain dryer (Ref. W4), and Gieseke kiln (Ref. G5)
40 CFR 60 Subpart Y	Standards of Performance for Coal Preparation Plants	Gieseke coal mill (Ref. G10) and belt conveyor (Ref. G9a)
40 CFR 60 Subpart OOO	Standards of Performance for Nonmetallic Mineral Processing Plants	Mullite-only processing equipment (Ref. G6b,G6a.1, G6a.2, G6e, G6c.1, G6c.2, G6, G6f, G6c, G7b, G1, G6d, and G6c)

Nothing in this permit shield shall alter the provisions of §303 of the federal Clean Air Act, including the authority of the (i) administrator under that section, the liability of the owner for any violation of applicable requirements prior to or at the time of permit issuance, or the ability to obtain information by the administrator pursuant to §114 of the federal Clean Air Act, (ii) the Board pursuant to §10.1-1314 or §10.1-1315 of the Virginia Air Pollution Control Law or (iii) the Department pursuant to §10.1-1307.3 of the Virginia Air Pollution Control Law.
(9 VAC 5-80-140)

VIII. General Conditions

A. Federal Enforceability

All terms and conditions in this permit are enforceable by the administrator and citizens under the federal Clean Air Act, except those that have been designated as only state-enforceable.
(9 VAC 5-80-110 N)

B. Permit Expiration

This permit has a fixed term of five years. The expiration date shall be the date five years from the date of issuance. Unless the owner submits a timely and complete application for renewal to the Department consistent with the requirements of 9 VAC 5-80-80, the right of the facility to operate shall be terminated upon permit expiration.

1. The owner shall submit an application for renewal at least six months but no earlier than eighteen months prior to the date of permit expiration.

2. If an applicant submits a timely and complete application for an initial permit or renewal under this section, the failure of the source to have a permit or the operation of the source without a permit shall not be a violation of Article 1, Part II of 9 VAC 5 Chapter 80, until the Board takes final action on the application under 9 VAC 5-80-150.

3. No source shall operate after the time that it is required to submit a timely and complete application under subsections C and D of 9 VAC 5-80-80 for a renewal permit, except in compliance with a permit issued under Article 1, Part II of 9 VAC 5 Chapter 80.

4. If an applicant submits a timely and complete application under section 9 VAC 5-80-80 for a permit renewal but the Board fails to issue or deny the renewal permit before the end of the term of the previous permit, (i) the previous permit shall not expire until the renewal permit has been issued or denied and (ii) all the terms and conditions of the previous permit, including any permit shield granted pursuant to 9 VAC 5-80-140, shall remain in effect from the date the application is determined to be complete until the renewal permit is issued or denied.

5. The protection under subsections F 1 and F 5 (ii) of section 9 VAC 5-80-80 F shall cease to apply if, subsequent to the completeness determination made pursuant section 9 VAC 5-80-80 D, the applicant fails to submit by the deadline specified in writing by the Board any additional information identified as being needed to process the application.

(9 VAC 5-80-80 B, C, and F; 9 VAC 5-80-110 D and 9 VAC 5-80-170 B)

C. Recordkeeping and Reporting

1. All records of monitoring information maintained to demonstrate compliance with the terms and conditions of this permit shall contain, where applicable, the following:

   a. The date, place as defined in the permit, and time of sampling or measurements.

   b. The date(s) analyses were performed.

c. The company or entity that performed the analyses.

d. The analytical techniques or methods used.

e. The results of such analyses.

f. The operating conditions existing at the time of sampling or measurement.

(9 VAC 5-80-110 F)

2. Records of all monitoring data and support information shall be retained for at least five years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by the permit.
(9 VAC 5-80-110 F)

3. The permittee shall submit the results of monitoring contained in any applicable requirement to DEQ no later than **March 1** and **September 1** of each calendar year. This report must be signed by a responsible official, consistent with 9 VAC 5-80-80 G, and shall include:

a. The time period included in the report. The time periods to be addressed are **January 1 through June 30** and **July 1 through December 31**.

b. All deviations from permit requirements. For purposes of this permit, deviations include, but are not limited to:

(1) Exceedance of emissions limitations or operational restrictions;

(2) Excursions from control device operating parameter requirements, as documented by continuous emission monitoring, periodic monitoring, or compliance assurance monitoring which indicates an exceedance of emission limitations or operational restrictions; or,

(3) Failure to meet monitoring, recordkeeping, or reporting requirements contained in this permit.

c. If there were no deviations from permit conditions during the time period, the permittee shall include a statement in the report that “no deviations from permit requirements occurred during this semi-annual reporting period.”

(9 VAC 5-80-110 F)

D. Annual Compliance Certification

Exclusive of any reporting required to assure compliance with the terms and conditions of this permit or as part of a schedule of compliance contained in this permit, the permittee shall submit to DEQ and EPA no later than **March 1** each calendar year a certification of compliance with all terms and conditions of this permit including emission limitation standards or work practices. The compliance certification shall comply with such additional requirements that may be specified pursuant to §114(a)(3) and §504(b) of the federal Clean Air Act. This certification shall be signed by a responsible official, consistent with 9 VAC 5-80-80 G, and shall include:

1. The time period included in the certification. The time period to be addressed is **January 1 through December 31**.

2. The identification of each term or condition of the permit that is the basis of the certification.

3. The compliance status.

4. Whether compliance was continuous or intermittent, and if not continuous, documentation of each incident of non-compliance.

5. Consistent with subsection 9 VAC 5-80-110 E, the method or methods used for determining the compliance status of the source at the time of certification and over the reporting period.

6. Such other facts as the permit may require to determine the compliance status of the source.

One copy of the annual compliance certification shall be sent to EPA at the following address:

Clean Air Act Title V Compliance Certification (3AP00)
U. S. Environmental Protection Agency, Region III
1650 Arch Street
Philadelphia, PA 19103-2029.

(9 VAC 5-80-110 K.5)

E. Permit Deviation Reporting

The permittee shall notify the South Central Regional Office within four daytime business hours after discovery of any deviations from permit requirements which may cause excess emissions for more than one hour, including those attributable to upset conditions as may be defined in this permit. In addition, within 14 days of the discovery, the permittee shall provide a written statement explaining the problem, any corrective actions or preventative measures taken, and the estimated duration of the permit

deviation. The occurrence should also be reported in the next semi-annual compliance monitoring report pursuant to General Condition C.3 of this section, above.
(9 VAC 5-80-110 F.2 and 9 VAC 5-80-250)

F. Failure/Malfunction Reporting

In the event that any affected facility or related air pollution control equipment fails or malfunctions in such a manner that may cause excess emissions for more than one hour, the owner shall, as soon as practicable but no later than four daytime business hours after the malfunction is discovered, notify the South Central Regional Office by facsimile transmission, telephone or telegraph of such failure or malfunction and shall within 14 days of the discovery provide a written statement giving all pertinent facts, including the estimated duration of the breakdown. Owners subject to the requirements of 9 VAC 5-40-50 C and 9 VAC 5-50-50 C are not required to provide the written statement prescribed in this paragraph for facilities subject to the monitoring requirements of 9 VAC 5-40-40 and 9 VAC 5-50-40. When the condition causing the failure or malfunction has been corrected and the equipment is again in operation, the owner shall notify the South Central Regional Office.
(9 VAC 5-80-110 and Condition 95 of May 22, 2006 permit)

G. Severability

The terms of this permit are severable. If any condition, requirement or portion of the permit is held invalid or inapplicable under any circumstance, such invalidity or inapplicability shall not affect or impair the remaining conditions, requirements, or portions of the permit.
(9 VAC 5-80-110 G.1)

H. Duty to Comply

The permittee shall comply with all terms and conditions of this permit. Any permit noncompliance constitutes a violation of the federal Clean Air Act or the Virginia Air Pollution Control Law or both and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or, for denial of a permit renewal application.
(9 VAC 5-80-110 G.2)

I. Need to Halt or Reduce Activity not a Defense

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.
(9 VAC 5-80-110 G.3)

J. Permit Modification

A physical change in, or change in the method of operation of, this stationary source may be subject to permitting under State Regulations 9 VAC 5-80-50, 9 VAC 5-80-1100, 9 VAC 5-80-1605, or 9 VAC 5-80-2000 and may require a permit modification and/or revisions except as may be authorized in any approved alternative operating scenarios. (9 VAC 5-80-190 and 9 VAC 5-80-260)

K. Property Rights

The permit does not convey any property rights of any sort, or any exclusive privilege. (9 VAC 5-80-110 G.5)

L. Duty to Submit Information

1. The permittee shall furnish to the Board, within a reasonable time, any information that the Board may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the Board copies of records required to be kept by the permit and, for information claimed to be confidential, the permittee shall furnish such records to the Board along with a claim of confidentiality.
   (9 VAC 5-80-110 G.6)

2. Any document (including reports) required in a permit condition to be submitted to the Board shall contain a certification by a responsible official that meets the requirements of 9 VAC 5-80-80 G.
   (9 VAC 5-80-110 K.1)

M. Duty to Pay Permit Fees

The owner of any source for which a permit under 9 VAC 5-80-50 through 9 VAC 5-80-300 was issued shall pay permit fees consistent with the requirements of 9 VAC 5-80-310 through 9 VAC 5-80-350. The actual emissions covered by the permit program fees for the preceding year shall be calculated by the owner and submitted to the Department by April 15 of each year. The calculations and final amount of emissions are subject to verification and final determination by the Department.
(9 VAC 5-80-110 H and 9 VAC 5-80-340 C)

N. Fugitive Dust Emission Standards

During the operation of a stationary source or any other building, structure, facility, or installation, no owner or other person shall cause or permit any materials or property to be handled, transported, stored, used, constructed, altered, repaired, or demolished without taking reasonable precautions to prevent particulate matter from becoming airborne. Such reasonable precautions may include, but are not limited to, the following:

1. Use, where possible, of water or chemicals for control of dust in the demolition of existing buildings or structures, construction operations, the grading of roads, or the clearing of land;

2. Application of asphalt, water, or suitable chemicals on dirt roads, materials stockpiles, and other surfaces which may create airborne dust; the paving of roadways and the maintaining of them in a clean condition;

3. Installation and use of hoods, fans, and fabric filters to enclose and vent the handling of dusty material. Adequate containment methods shall be employed during sandblasting or other similar operations;

4. Open equipment for conveying or transporting material likely to create objectionable air pollution when airborne shall be covered or treated in an equally effective manner at all times when in motion; and,

5. The prompt removal of spilled or tracked dirt or other materials from paved streets and of dried sediments resulting from soil erosion.

(9 VAC 5-40-90 and 9 VAC 5-50-90)

O. Startup, Shutdown, and Malfunction

At all times, including periods of startup, shutdown, soot blowing, and malfunction, owners shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with air pollution control practices for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Board, which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source.
(9 VAC 5-50-20 E and 9 VAC 5-40-20 E)

P. Alternative Operating Scenarios

Contemporaneously with making a change between reasonably anticipated operating scenarios identified in this permit, the permittee shall record in a log at the permitted facility a record of the scenario under which it is operating. The permit shield described in 9 VAC 5-80-140 shall extend to all terms and conditions under each such operating scenario. The terms and conditions of each such alternative scenario shall meet all applicable requirements including the requirements of 9 VAC 5 Chapter 80, Article 1.
(9 VAC 5-80-110 J)

Q. Inspection and Entry Requirements

The permittee shall allow DEQ, upon presentation of credentials and other documents as may be required by law, to perform the following:

1. Enter upon the premises where the source is located or emissions-related activity is conducted, or where records must be kept under the terms and conditions of the permit.

2. Have access to and copy, at reasonable times, any records that must be kept under the terms and conditions of the permit.

3. Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit.

4. Sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the permit or applicable requirements.

(9 VAC 5-80-110 K.2 and Condition 94 of May 22, 2006 permit)

R. Reopening For Cause

The permit shall be reopened by the Board if additional federal requirements become applicable to a major source with a remaining permit term of three years or more. Such reopening shall be completed no later than 18 months after promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions has been extended pursuant to 9 VAC 5-80-80 F.

1. The permit shall be reopened if the Board or the administrator determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit.

2. The permit shall be reopened if the administrator or the Board determines that the permit must be revised or revoked to assure compliance with the applicable requirements.

3. The permit shall not be reopened by the Board if additional applicable state requirements become applicable to a major source prior to the expiration date established under 9 VAC 5-80-110 D.

(9 VAC 5-80-110 L)

S. Permit Availability

Within five days after receipt of the issued permit, the permittee shall maintain the permit on the premises for which the permit has been issued and shall make the permit immediately available to DEQ upon request.
(9 VAC 5-80-150 E)

T. Transfer of Permits

1. No person shall transfer a permit from one location to another, unless authorized under 9 VAC 5-80-130, or from one piece of equipment to another.
(9 VAC 5-80-160)

2. In the case of a transfer of ownership of a stationary source, the new owner shall comply with any current permit issued to the previous owner. The new owner shall notify the Board of the change in ownership within 30 days of the transfer and shall comply with the requirements of 9 VAC 5-80-200.
(9 VAC 5-80-160)

3. In the case of a name change of a stationary source, the owner shall comply with any current permit issued under the previous source name. The owner shall notify the Board of the change in source name within 30 days of the name change and shall comply with the requirements of 9 VAC 5-80-200.
(9 VAC 5-80-160)

U. Malfunction as an Affirmative Defense

1. A malfunction constitutes an affirmative defense to an action brought for noncompliance with technology-based emission limitations if the requirements of paragraph 2 of this condition are met.

2. The affirmative defense of malfunction shall be demonstrated by the permittee through properly signed, contemporaneous operating logs, or other relevant evidence that show the following:

   a. A malfunction occurred and the permittee can identify the cause or causes of the malfunction.

   b. The permitted facility was at the time being properly operated.

   c. During the period of malfunction, the permittee took all reasonable steps to minimize levels of emissions that exceeded the emissions standards or other requirements in the permit.

   d. The permittee notified the board of the malfunction within two working days following the time when the emissions limitations were exceeded due to the

malfunction. This notification shall include a description of the malfunction, any steps taken to mitigate emissions, and corrective actions taken. The notification may be delivered either orally or in writing. The notification may be delivered by electronic mail, facsimile transmission, telephone, or any other method that allows the permittee to comply with the deadline. This notification fulfills the requirements of 9 VAC 5-80-110 F.2.b to report promptly deviations from permit requirements. This notification does not release the permittee from the malfunction reporting requirements under 9 VAC 5-20-180 C.

3. In any enforcement proceeding, the permittee seeking to establish the occurrence of a malfunction shall have the burden of proof.

4. The provisions of this section are in addition to any malfunction, emergency or upset provision contained in any applicable requirement.

(9 VAC 5-80-250)

V. Permit Revocation or Termination for Cause

A permit may be revoked or terminated prior to its expiration date if the owner knowingly makes material misstatements in the permit application or any amendments thereto or if the permittee violates, fails, neglects or refuses to comply with the terms or conditions of the permit, any applicable requirements, or the applicable provisions of 9 VAC 5 Chapter 80 Article 1. The Board may suspend, under such conditions and for such period of time as the Board may prescribe, any permit for any of the grounds for revocation or termination or for any other violations of these regulations.
(9 VAC 5-80-260)

W. Duty to Supplement or Correct Application

Any applicant who fails to submit any relevant facts or who has submitted incorrect information in a permit application shall, upon becoming aware of such failure or incorrect submittal, promptly submit such supplementary facts or corrections. An applicant shall also provide additional information as necessary to address any requirements that become applicable to the source after the date a complete application was filed but prior to release of a draft permit.
(9 VAC 5-80-80 E)

X. Stratospheric Ozone Protection

If the permittee handles or emits one or more Class I or II substances subject to a standard promulgated under or established by Title VI (Stratospheric Ozone Protection) of the federal Clean Air Act, the permittee shall comply with all applicable sections of 40 CFR Part 82, Subparts A to F.
(40 CFR Part 82, Subparts A-F)

Y. Accidental Release Prevention

If the permittee has more, or will have more than a threshold quantity of a regulated substance in a process, as determined by 40 CFR 68.115, the permittee shall comply with the requirements of 40 CFR Part 68.
(40 CFR Part 68)